



COUNTY COUNCIL OF NORTHUMBERLAND.

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# ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

For the Year 1908,

WITH SUMMARY OF REPORTS OF DISTRICT  
MEDICAL OFFICERS OF HEALTH AND  
STATISTICAL INFORMATION.

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NEWCASTLE-UPON-TYNE :

R. WARD AND SONS, WARD'S BUILDINGS, HIGH BRIDGE.

1909.

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## NORTHUMBERLAND COUNTY COUNCIL.

### REPORT OF THE COUNTY MEDICAL OFFICER OF HEALTH FOR THE YEAR ENDING 31st DECEMBER, 1908.

TO THE CHAIRMAN AND MEMBERS OF THE PROPERTY AND SANITATION  
COMMITTEE OF THE SAID COUNCIL

GENTLEMEN :—

I beg to present my annual report dealing with the year 1908. In it will be found, as in former years, references to the annual reports of the district medical officers of health and to some of the more important requirements of the several sanitary districts from a health point of view; also to the various outbreaks of infectious disease, to hospital accommodation, vital statistics, legislation as it relates to local government and public health, the inquiries held by Inspectors of the Local Government Board and the preliminary steps for carrying out the medical inspection of children attending Public Elementary Schools, etc., etc.

The following changes applying to medical officers of health took place during the year :—

*Newbiggin-by-the-Sea Urban District Council.*—Dr. Hart Jackson succeeded Dr. Burrow as medical officer, the latter having been appointed a medical inspector for the Northumberland County Council under the Education (Administrative Provisions) Act, 1907.

*Haltwhistle Rural District Council.*—Dr. J. M. Glasse was appointed to fill the vacancy caused by the resignation of Dr. W. R. Speirs.

*Tynemouth Rural District Council.*—Dr. J. R. Burn was appointed to succeed the late Dr. Buttercase as medical officer for the No. 2 division of the Tynemouth Rural District.

Reports were received from each of the medical officers of health in the Administrative County.

Thirty of these reports were printed; two (those of the rural districts of Bellingham and Haltwhistle) were typewritten; one (that for the urban district of Seghill) was in manuscript form.

It is much to be regretted that the three sanitary authorities last named still fail to print and circulate the annual report of their medical officers of health; these reports contain valuable information relating to the sanitary conditions and requirements of the districts to which they relate and a copy should unquestionably be available for any ratepayer at all interested in public health matters.

No reports were received in January, and twenty-two during the first quarter of the year, but the last one received did not arrive until June 9th. As has previously been pointed out on several occasions no calculations can be made as to county rates, etc., until *all* the annual reports are received.

The directions given by the Local Government Board are as follows :—

The report “should be made as soon as possible after the expiration of the year to which it relates. The medical officer of health ought not in general to have any difficulty in doing this within a month or six weeks ; but if from any special circumstances the report cannot be completed within six weeks it should be understood that the delay must not be indefinite, and that the report should be in the hands of his council and of the Board within at most three months from the end of the year.”

#### SPECIAL REPORTS.

It is still necessary to point out that in every case in which a medical officer of health sends a special report to the Local Government Board he is required to send a copy of such report to the county council ; also that school closure requires a special report to be sent to the Local Government Board and to the county council. Appended are copies of Articles 15 and 16 of the Order of the Local Government Board for 1891, relating to these special reports, and also articles 13 and 14 of a memorandum dated July 1897, having reference to the closure of public elementary schools.

“(15) He shall give immediate information to Us of any outbreak of dangerous epidemic disease within the district and shall transmit to Us a copy of each annual report and of any special report. He shall make a special report to Us of the grounds of any advice which he may give to the sanitary authority with a view to their requiring the closure of any school or schools, in pursuance of the Code of Regulations approved by the Education Department and for the time being in force.

“(16) *At the same time as he gives information to Us of an outbreak of infectious disease or transmits to Us a copy of his annual report, he shall give the like information or transmit a copy of such report to the county council of the county within which his district may be situated.*”

By a later memorandum dated July 1897, the Local Government Board further directs as follows :—

“(13) Reports to sanitary authorities, advising the closure of a school or schools in any district are to be treated as ‘special’ reports within the meaning of the general Order of the Local Government Board of March 23rd, 1891, and copies of them are required by Art. 18 (secs. 15 and 16) of that Order, to be sent to the Board and to the county council. These reports should state the grounds upon which the medical officer of health advocates the closure of the school or schools in preference to the exclusion of particular scholars.

“All notices of the sanitary authority for the closing of public elementary schools should be addressed, in writing, to the managers, and should state the grounds upon which the closing is deemed necessary.”

Very few medical officers of health carry out the Board’s direction as above and at the same time as they give information to the Board of an outbreak of infectious disease, give the like information to the county council of the county within which his district may be situated, and very few when reporting to the sanitary authority advising the closure of a school send copies of such reports to the Board and to the county council as required by Art. 18 (Secs. 15 and 16) of the General Order of the Local Government Board of March 23rd, 1891.



## SANITARY LEGISLATION.

During the year under review few measures having a direct bearing upon public health were added to the Statute Book. The Vaccination Act, 1898 and 1907, was continued in force until December 31st, 1909.

Regulations were made by the Local Government Board with respect to food—The Public Health (First Series: Unsound Food) Regulations 1908, and The Public Health (Foreign Meat) Regulations 1908.

Under the first set of Regulations the medical officer of health is empowered to examine any articles of food landed within the area of his sanitary authority, and, if necessary, to take samples for laboratory examination.

The Foreign Meat Regulations have for their object the more thorough examination of foreign meat, especially such articles as tripe, kidneys, tongues, carcasses from which the heads or throat lymphatic glands have been removed, and the condemnation at the port of entry of unwholesome meat intended for human consumption.

The Housing, Town Planning, etc., Bill and the Children's Bill were introduced by the President of the Local Government Board and the Home Secretary respectively; the former measure was withdrawn on the understanding that it would be re-introduced in the following session; the latter Bill became law but did not come into operation during 1908.

The Public Health (Markets) Act came into force on August 1st, 1908, and gives greater facilities to urban and rural district councils for providing and maintaining markets.

The Local Government Board issued regulations for preventing the spread of Tuberculosis under which all Poor Law medical officers must notify the Medical Officer of Health of every patient presenting symptoms of Pulmonary Tuberculosis. Notification of Phthisis, except in the case of pauper patients, was not made compulsory.

I have again to thank the district medical officers of health, the surveyors and sanitary inspectors for much valuable assistance given me on many occasions.

I am, gentlemen,

Your obedient servant,

J. W. HEMBROUGH.

## THE ADMINISTRATIVE COUNTY.

### AREA.

The area of the County is 1,278,600 acres, divided as follows:—Boroughs, 7,882 acres; urban districts, 46,775 acres; rural districts, 1,223,943 acres.

### POPULATION.

The population of Northumberland (exclusive of the county boroughs of Newcastle-on-Tyne and Tynemouth), estimated to the middle of 1908, was 362,786, being a decrease of 25,005 on the 1901 census, and an increase of 8,330 as compared with the population estimated to the middle of 1907.

The greatest estimated increase in population since 1907 was in the Borough of Wallsend (2,000).

### CHANGES IN AREA AND POPULATION.

During the year under review no change was made which occasioned any alteration in the area or population of the administrative county.

### BOROUGHES, URBAN AND RURAL DISTRICTS.

The County up to the end of 1908 was divided for the purpose of sanitary administration into 31 districts, three of which were municipal boroughs, sixteen urban districts, and twelve rural districts. There are also the Blyth, Tweed, and Tyne Port Sanitary Authorities.

#### BOROUGHES.

Berwick-on-Tweed, Morpeth and Wallsend.

The population of the boroughs was estimated to be 48,034 in the middle of 1908.

#### URBAN DISTRICTS.

Alnwick, Amble, Ashington, Bedlingtonshire, Blyth, Cramlington, Earsdon, Gosforth, Hexham, Newbiggin-by-the-Sea, Newburn, Rothbury, Seghill, Weetslade, Whitley and Monkseaton and Willington Quay.

The population of the urban districts (estimated to the middle of 1908) was 176,455.

#### RURAL DISTRICTS.

Alnwick, Belford, Bellingham, Castle Ward, Glendale, Haltwhistle, Hexham, Morpeth, Norham and Islandshire, Rothbury, Tynemouth No. 1 and Tynemouth No. 2.

The population of the rural districts (estimated to the middle of 1908) was 138,297.

### DENSITY OF POPULATION.

The average number of persons per acre was, for the county 0·28, for the boroughs and urban districts 4·1, and for the rural districts 0·11.

This, however, was subject to great variation; thus in the urban district of Willington Quay the average population to the acre was 28·56, while in the urban district of Rothbury it was only 1·34. In the rural districts the highest average per acre was in Tynemouth No. 2 (2·08), and the lowest in Bellingham (0·024).

The area and population of each sanitary district in the Administrative County will be found in a table at the end of this report.

### BIRTHS.

The births registered during 1908 numbered 10,689, giving a birth rate for the county of 29·46. In 1907 the rate was 28·25.

Of the total births, 7,147 occurred in the boroughs and urban districts, and 3,542 in the rural districts. The birth rate for the former was 31·83 per 1,000 (30·44 in 1907), and for the latter 25·61 (24·75 in 1907).

The following table shows the comparative rates:—

|                           | Birth Rate. | Increase since 1907. | Decrease since 1907. |
|---------------------------|-------------|----------------------|----------------------|
| Administrative County ... | 29·46       | 1·21                 | —                    |
| Urban districts ...       | 31·83       | 1·39                 | —                    |
| Rural districts ...       | 25·61       | 0·86                 | —                    |
| England and Wales ...     | 26·50       | 0·20                 | —                    |

The three highest birth rates per 1,000 living were recorded in the following districts:—

| Urban Districts. | Birth Rate. | Rural Districts.    | Birth Rate. |
|------------------|-------------|---------------------|-------------|
| Weetslade ...    | 43·09       | Tynemouth No. 2 ... | 33·91       |
| Ashington ...    | 40·45       | Morpeth .. ...      | 28·88       |
| Newburn ...      | 39·37       | Tynemouth No. 1 ... | 26·29       |

The three lowest were returned from the districts in the undermentioned table:—

| Urban Districts.          | Birth Rate. | Rural Districts. | Birth Rate. |
|---------------------------|-------------|------------------|-------------|
| Rothbury ...              | 13·07       | Bellingham ...   | 18·50       |
| Whitley and Monkseaton... | 19·58       | Rothbury ...     | 20·70       |
| Berwick ...               | 23·02       | Castle Ward ...  | 21·82       |

During the year under consideration the birth rate showed an increase in 15 urban and in 7 rural districts; in 4 urban and in 5 rural districts the rate showed a decrease. In 12 urban and 2 rural districts the birth rate exceeded, and in 7 urban and 10 rural districts was below, the rate for England and Wales.

The following table shows the birth rates during the last ten years:—

| Year.    | Number of births per 1,000 living during the years 1899-1908. |                  |                  |                    |
|----------|---|------------------|------------------|--------------------|
|          | Administrative County.  | Urban Districts. | Rural Districts. | England and Wales. |
| 1899 ... | 31·46   | 34·31            | 25·99            | 29·3               |
| 1900 ... | 31·24   | 34·03            | 25·56            | 28·9               |
| 1901 ... | 33·22   | 36·29            | 26·73            | 28·5               |
| 1902 ... | 32·76   | 35·45            | 27·04            | 28·6               |
| 1903 ... | 32·58   | 35·52            | 26·27            | 28·4               |
| 1904 ... | 29·42   | 30·89            | 26·21            | 27·9               |
| 1905 ... | 30·41   | 32·89            | 26·62            | 27·2               |
| 1906 ... | 29·09   | 31·39            | 25·47            | 27·0               |
| 1907 ... | 28·25   | 30·44            | 24·75            | 26·3               |
| 1908 ... | 29·46   | 31·83            | 25·61            | 26·5               |
| Mean ... | 30·78   | 33·30            | 26·02            | 27·8               |

#### DEATHS.

The number of deaths registered during 1908 was 5,377. Of these, 3,452 occurred in urban, and 1,925 in rural districts.

The county rate was 14·82, as compared with 13·51 in 1907 and 14·52 in 1906; that of the boroughs and urban districts was 15·37, as compared with 13·58 in 1907, and 15·16 in 1906; the rural death rate was 13·91, as against 13·40 in 1907, and 13·51 in 1906.



The death rate for England and Wales was 14·7, as against 15·0 in the previous year.

The approximate urban death rate for England and Wales was 14·89, and the approximate rural death rate 14·54.

The following table shows the comparative rates :—

|                           | Death Rate. | Increase since 1907. | Decrease since 1907. |
|---------------------------|-------------|----------------------|----------------------|
| Administrative County ... | 14·82       | 1·31                 | —                    |
| Urban districts ...       | 15·37       | 1·79                 | —                    |
| Rural districts ...       | 13·91       | 0·51                 | —                    |
| England and Wales ...     | 14·70       | —                    | 0·30                 |

The three highest death rates per 1,000 living in each class of district were found to be as follows :—

| Urban Districts. | Death Rate. | Rural Districts.        | Death Rate. |
|------------------|-------------|-------------------------|-------------|
| Morpeth ...      | 21·16       | Norham and Islandshires | 15·69       |
| Weetslade ...    | 19·43       | Belford ...             | 14·07       |
| Earsdon ...      | 19·10       | Tynemouth, No. 2 ...    | 13·97       |

while the three lowest were recorded as under :—

| Urban Districts.          | Death Rate. | Rural Districts. | Death Rate. |
|---------------------------|-------------|------------------|-------------|
| Gosforth ...              | 8·60        | Bellingham ...   | 11·00       |
| Whitley and Monkseaton... | 9·65        | Castle Ward ...  | 11·40       |
| Amble ...                 | 9·66        | Rothbury ...     | 12·62       |

During the year under consideration the death rate showed an increase in 15 boroughs and urban districts, and in 8 rural districts; in 4 boroughs and urban districts, and in 4 rural districts the rate showed a decrease. In 15 urban districts the death rate exceeded, and in 4 urban and in all the rural districts, except one, was below, the rate for England and Wales.

The following table shows the death rates for the last 10 years :—

| Year.    | Number of deaths per 1,000 living during the years 1899–1908. |                  |                  |                    |
|----------|---|------------------|------------------|--------------------|
|          | Administrative County.  | Urban Districts. | Rural Districts. | England and Wales. |
| 1899...  | 17·71   | 19·30            | 14·65            | 18·3               |
| 1900...  | 17·53   | 18·69            | 15·16            | 18·3               |
| 1901...  | 18·72   | 19·82            | 16·39            | 16·9               |
| 1902 ..  | 16·63   | 17·32            | 15·17            | 16·3               |
| 1903...  | 16·81   | 17·54            | 15·24            | 15·4               |
| 1904...  | 17·12   | 17·60            | 15·99            | 16·2               |
| 1905...  | 15·01   | 15·67            | 14·00            | 15·2               |
| 1906...  | 14·52   | 15·16            | 13·51            | 15·4               |
| 1907...  | 13·51   | 13·58            | 13·40            | 15·0               |
| 1908...  | 14·82   | 15·37            | 13·91            | 14·7               |
| Mean ... | 16·23   | 17·00            | 14·74            | 16·1               |

### INFANT MORTALITY (UNDER ONE YEAR).

The number of deaths of children under 1 year was, in the boroughs and urban districts 1,107; in the rural districts 458; total 1,565.

The following table shows the comparative rates of infant mortality (deaths under 1 year per 1,000 births) :—

|                           | Number of Deaths. | Death rate per 1,000 births. | Increase since 1907. | Decrease since 1907. |
|---------------------------|-------------------|------------------------------|----------------------|----------------------|
| Administrative County ... | 1,565             | 146·41                       | 33·48                | —                    |
| Urban districts ...       | 1,107             | 154·89                       | 34·00                | —                    |
| Rural districts ...       | 458               | 129·92                       | 32·68                | —                    |
| England and Wales ...     | 113,646           | 121·00                       | 3·00                 | —                    |

In 15 of the urban districts the infant mortality rate was higher, and in 4 lower, than in 1907.

In 10 of the rural districts the infant mortality rate was higher, and in 2 lower, than in 1907.

In 14 urban and in 4 rural districts the infant mortality rate exceeded, and in 5 urban and 8 rural districts was less than, the rate for England and Wales.

The three highest infant mortality rates per 1,000 births were recorded in the following districts :—

| Urban Districts.     | Infant Mortality Rate (per 1000 births.) | Rural Districts.    | Infant Mortality Rate (per 1000 births.) |
|----------------------|--|---------------------|--|
| Morpeth ...          | 228·07                                   | Tynemouth No. 2 ... | 169·92                                   |
| Earsdon ...          | 227·04                                   | Morpeth ...         | 155·76                                   |
| Newbiggin } each ... | 214·28                                   | Tynemouth No. 1 ..  | 143·32                                   |
| Seghill              |  |                     |  |

The three lowest were returned from :—

| Urban Districts.       | Infant Mortality Rate (per 1000 births.) | Rural Districts.       | Infant Mortality Rate (per 1000 births.) |
|------------------------|--|------------------------|--|
| Rothbury ...           | Nil.                                     | Bellingham ...         | 54·05                                    |
| Whitley and Monkseaton | 80·98                                    | Norham and Islandshire | 92·71                                    |
| Gosforth ...           | 108·99                                   | Belford ...            | 94·82                                    |

The following table shows the infant mortality rates during the ten year 1899-1908 :—

| Year.    | Number of infant deaths per 1,000 births during the years 1899-1908. |                  |                  |                    |
|----------|--|------------------|------------------|--------------------|
|          | Administrative County.   | Urban Districts. | Rural Districts. | England and Wales. |
| 1899...  | 173·88   | 187·53           | 139·16           | 163·               |
| 1900...  | 160·31   | 170·92           | 131·56           | 154·               |
| 1901 .   | 183·57   | 187·49           | 172·36           | 151·               |
| 1902...  | 126·90   | 136·04           | 101·39           | 133·               |
| 1903...  | 145·43   | 153·11           | 123·11           | 132·               |
| 1904...  | 168·69   | 179·17           | 141·73           | 145·               |
| 1905...  | 133·57   | 145·06           | 111·83           | 128·               |
| 1906...  | 136·28   | 146·27           | 116·94           | 133·               |
| 1907...  | 102·93   | 120·89           | 97·24            | 118·               |
| 1908...  | 146·41   | 154·89           | 129·92           | 121·               |
| Mean ... | 147·79   | 158·13           | 126·53           | 137·8              |

The following table shows the ages at which the deaths under one year occurred and the causes of death.

| Cause of Death.                   |                                    |     |     | AGE PERIODS.     |                            |                            |                            |                             | Total. |
|-----------------------------------|------------------------------------|-----|-----|------------------|----------------------------|----------------------------|----------------------------|-----------------------------|--------|
|                                   |                                    |     |     | Under<br>1 month | 1 and<br>under<br>3 months | 3 and<br>under<br>6 months | 6 and<br>under<br>9 months | 9 and<br>under<br>12 months |        |
| Common<br>Infectious<br>Diseases. | Small-pox ... ..                   | ... | ... | —                | —                          | —                          | —                          | —                           | —      |
|                                   | Chicken-pox ... ..                 | ... | ... | —                | —                          | —                          | —                          | —                           | —      |
|                                   | Measles ... ..                     | ... | ... | 2                | —                          | —                          | 2                          | 2                           | 6      |
|                                   | Scarlet Fever ... ..               | ... | ... | —                | —                          | —                          | —                          | —                           | —      |
|                                   | Diphtheria: Croup ... ..           | ... | ... | —                | —                          | —                          | 2                          | 1                           | 3      |
| Diarrhœal Diseases                | Whooping Cough ... ..              | ... | ... | 6                | 14                         | 11                         | 14                         | 19                          | 64     |
|                                   | ...                                | ... | ... | 17               | 54                         | 114                        | 63                         | 49                          | 302    |
|                                   | Premature Birth ... ..             | ... | ... | 234              | 17                         | 3                          | —                          | 1                           | 255    |
| Wasting<br>Diseases.              | Congenital Defects ... ..          | ... | ... | 44               | 10                         | 4                          | 4                          | —                           | 62     |
|                                   | Injury at Birth ... ..             | ... | ... | 7                | —                          | —                          | —                          | —                           | 7      |
|                                   | Want of Breast Milk—<br>Starvation | }   |     | 3                | —                          | —                          | —                          | —                           | 3      |
|                                   | Atrophy, Debility, Mu-<br>rasmus   | }   |     | 147              | 61                         | 43                         | 24                         | 8                           | 283    |
| Tuberculous Diseases              | ...                                | ... | ... | 1                | 5                          | 19                         | 22                         | 16                          | 63     |
|                                   | Erysipelas ... ..                  | ... | ... | —                | 2                          | —                          | —                          | —                           | 2      |
|                                   | Venereal Disease ... ..            | ... | ... | 1                | 1                          | 2                          | —                          | 1                           | 5      |
| Other<br>Causes.                  | Rickets ... ..                     | ... | ... | —                | 1                          | —                          | 2                          | —                           | 3      |
|                                   | Meningitis (not Tuber-<br>culous)  | }   |     | 5                | 7                          | 7                          | 5                          | 7                           | 31     |
|                                   | Convulsions ... ..                 | ... | ... | 41               | 37                         | 26                         | 16                         | 12                          | 132    |
|                                   | Bronchitis ... ..                  | ... | ... | 20               | 25                         | 39                         | 27                         | 19                          | 130    |
|                                   | Laryngitis ... ..                  | ... | ... | —                | 1                          | 1                          | 1                          | 2                           | 5      |
|                                   | Pneumonia ... ..                   | ... | ... | 9                | 16                         | 24                         | 35                         | 23                          | 107    |
|                                   | Suffocation, overlying ... ..      | ... | ... | 2                | 4                          | 1                          | 1                          | 1                           | 9      |
|                                   | Other causes ... ..                | ... | ... | 53               | 14                         | 5                          | 9                          | 12                          | 93     |
|                                   |                                    |     |     | 592              | 269                        | 299                        | 232                        | 173                         | 1,565  |

The above table indicates that the most fatal age periods were under one month and between three and six months, and that the chief causes of death were Diarrhœal Diseases, Atrophy and Debility, and Prematurity of Birth, which diseases accounted for fifty-three per cent. of the total infant deaths. Thirty-eight per cent. were due to immaturity, which included premature birth and certain congenital conditions which prevent the child having a fair start in life such as debility caused by poverty, intemperance, and unhealthy surroundings, exerting a baneful effect upon the health of the mother.

Nineteen per cent. of the infantile deaths were due to Diarrhœal diseases, four per cent. to Tuberculous diseases, and fifteen per cent. to affections of the Respiratory organs.

Allusion has been made, in previous annual reports, to the high mortality rate of infants during the twelve months succeeding birth, and to the chief causes (the majority of which are preventable) of the waste of human life at this age period, to the increased importance of reducing the infant mortality rate in view of the almost universal lowering of the birth rate, to the various measures (including legislative enactments) which have been or might be adopted for diminishing the inexcusable waste of human lives, and especially to the beneficial results which have invariably followed the adoption of the Notification of Births Act and the appointment of Health Visitors.



### DEATHS UNDER 5 YEARS.

The deaths under 5 years numbered 2,128, giving a death rate at this age period of 5·81 per 1,000 living, as compared with 4·59 in 1907 and 5·58 in 1906.

The following table shows the numbers and death rates for the ten years 1899 to 1908 inclusive :—

| Years.   | Urban. | Rural. | Total. | Death Rate<br>per 1,000 of<br>population. | Death Rate<br>Increase<br>since the<br>previous<br>year. | Death Rate<br>Decrease<br>since the<br>previous<br>year. |
|----------|--------|--------|--------|---|--|--|
| 1899 ... | 2,208  | 611    | 2,819  | 7·43                                      | 0·28   | —  |
| 1900 ... | 2,144  | 576    | 2,720  | 6·99                                      | —  | 0·44   |
| 1901 ... | 2,411  | 733    | 3,144  | 8·10                                      | 1·11   | —  |
| 1902 ... | 1,888  | 487    | 2,375  | 5·98                                      | —  | 2·12   |
| 1903 ... | 2,120  | 560    | 2,680  | 6·6                                       | 0·62   | —  |
| 1904 ... | 2,204  | 689    | 2,893  | 6·94                                      | 0·34   | —  |
| 1905 ... | 1,344  | 546    | 1,890  | 5·65                                      | —  | 1·29   |
| 1906 ... | 1,407  | 527    | 1,934  | 5·58                                      | 0·23   | —  |
| 1907 ... | 1,173  | 455    | 1,628  | 4·59                                      | —  | 0·99   |
| 1908 ... | 1,521  | 607    | 2,128  | 5·81                                      | 1·22   | —  |

### DEATHS AT 65 YEARS AND UPWARDS.

The number of deaths at this age period was 1,258, giving a death rate of 3·46 per 1,000 living.

Of these 695 took place in the urban, and 563 in the rural districts.

The following table shows the number of deaths and death rates for the ten years 1899 to 1908 inclusive :—

| Years.   | Urban. | Rural. | Total. | Death Rate<br>per 1,000 of<br>population. | Death Rate<br>Increase<br>since the<br>previous<br>year. | Death Rate<br>Decrease<br>since the<br>previous<br>year. |
|----------|--------|--------|--------|---|--|--|
| 1899 ... | 935    | 594    | 1,529  | 4·03                                      | 0·02   | —  |
| 1900 ... | 872    | 628    | 1,500  | 3·85                                      | —  | 0·18   |
| 1901 ... | 828    | 529    | 1,357  | 3·49                                      | —  | 0·36   |
| 1902 ... | 829    | 580    | 1,409  | 3·54                                      | 0·05   | —  |
| 1903 ... | 818    | 540    | 1,358  | 3·34                                      | —  | 0·20   |
| 1904 ... | 891    | 557    | 1,448  | 3·47                                      | 0·13   | —  |
| 1905 ... | 626    | 565    | 1,191  | 3·56                                      | 0·09   | —  |
| 1906 ... | 689    | 597    | 1,286  | 3·71                                      | 0·15   | —  |
| 1907 ... | 670    | 632    | 1,302  | 3·67                                      | —  | 0·04   |
| 1908 ... | 695    | 563    | 1,258  | 3·46                                      | —  | 0·26   |

### INFECTIOUS DISEASES.

The cases of notifiable infectious disease in the Administrative County numbered 1,925. Of the above, 1,085 were notified in boroughs and urban districts and 840 in rural districts.

The attack rate per 1,000 of population in the Administrative County was 5·30, in the boroughs and urban districts 4·83, and in the rural districts 6·07.

The accompanying table indicates the nature and distribution of the cases notified :—

| Sanitary districts.           |  |  |  | Total number notified. | Notifiable Diseases. |          |                                  |             |                |               |                |                                |                  |   |
|-------------------------------|--|--|--|------------------------|----------------------|----------|----------------------------------|-------------|----------------|---------------|----------------|--------------------------------|------------------|---|
|                               |  |  |  |                        | Small-pox            | Cholera. | Diphtheria and Membranous Croup. | Erysipelas. | Scarlet Fever. | Typhus Fever. | Enteric Fever. | Relapsing and Continued Fever. | Puerperal Fever. |   |
| MUNICIPAL BOROUGHs—           |  |  |  |                        |                      |          |                                  |             |                |               |                |                                |                  |   |
| Berwick-on-Tweed ... ..       |  |  |  | 85                     | —                    | —        | 44                               | 12          | 24             | —             | 5              | —                              | —                | — |
| Morpeth ... ..                |  |  |  | 19                     | —                    | —        | 2                                | —           | —              | —             | 17             | —                              | —                | — |
| Wallsend ... ..               |  |  |  | 161                    | —                    | —        | 80                               | 7           | 64             | —             | 10             | —                              | —                | — |
| URBAN DISTRICTS—              |  |  |  |                        |                      |          |                                  |             |                |               |                |                                |                  |   |
| Alnwick ... ..                |  |  |  | 19                     | —                    | —        | 13                               | 1           | 5              | —             | —              | —                              | —                | — |
| Amble ... ..                  |  |  |  | 41                     | —                    | —        | 33                               | 3           | 5              | —             | —              | —                              | —                | — |
| Ashington ... ..              |  |  |  | 104                    | —                    | —        | 41                               | 19          | 17             | —             | 25             | 2                              | —                | — |
| Bedlingtonshire ... ..        |  |  |  | 95                     | —                    | —        | 23                               | 12          | 21             | —             | 38             | 1                              | —                | — |
| Blyth ... ..                  |  |  |  | 102                    | —                    | —        | 48                               | 13          | 27             | —             | 12             | 2                              | —                | — |
| Cramlington ... ..            |  |  |  | 18                     | —                    | —        | 5                                | 6           | 2              | —             | 5              | —                              | —                | — |
| Earsdon ... ..                |  |  |  | 126                    | —                    | —        | 50                               | 23          | 43             | —             | 5              | 5                              | —                | — |
| Gosforth ... ..               |  |  |  | 68                     | —                    | —        | 37                               | 6           | 18             | —             | 7              | —                              | —                | — |
| Hexham ... ..                 |  |  |  | 29                     | —                    | —        | 15                               | 5           | 8              | —             | 1              | —                              | —                | — |
| Newbiggin-by-the-Sea .. ..    |  |  |  | 1                      | —                    | —        | 1                                | —           | —              | —             | —              | —                              | —                | — |
| Newburn ... ..                |  |  |  | 106                    | —                    | —        | 57                               | 11          | 25             | —             | 12             | —                              | —                | 1 |
| Rothbury ... ..               |  |  |  | 7                      | —                    | —        | 1                                | 6           | —              | —             | —              | —                              | —                | — |
| Seghill ... ..                |  |  |  | 4                      | —                    | —        | —                                | 1           | 3              | —             | —              | —                              | —                | — |
| Weetslade ... ..              |  |  |  | 36                     | —                    | —        | 11                               | 9           | 14             | —             | 2              | —                              | —                | — |
| Whitley and Monkseaton ... .. |  |  |  | 39                     | —                    | —        | 23                               | 2           | 16             | —             | 4              | —                              | —                | — |
| Willington Quay ... ..        |  |  |  | 25                     | —                    | —        | 2                                | 5           | 18             | —             | —              | —                              | —                | — |
| RURAL DISTRICTS—              |  |  |  |                        |                      |          |                                  |             |                |               |                |                                |                  |   |
| Alnwick ... ..                |  |  |  | 83                     | —                    | —        | 55                               | 6           | 16             | —             | 5              | 1                              | —                | — |
| Belford ... ..                |  |  |  | 12                     | —                    | —        | 5                                | 4           | 2              | —             | 1              | —                              | —                | — |
| Bellingham ... ..             |  |  |  | 24                     | —                    | —        | 12                               | 4           | 6              | —             | 2              | —                              | —                | — |
| Castle Ward ... ..            |  |  |  | 73                     | —                    | —        | 36                               | 16          | 11             | —             | 10             | —                              | —                | — |
| Glendale ... ..               |  |  |  | 37                     | —                    | —        | 11                               | 12          | 12             | —             | 2              | —                              | —                | — |
| Haltwhistle ... ..            |  |  |  | 35                     | —                    | —        | 20                               | 5           | 5              | —             | 5              | —                              | —                | — |
| Hexham ... ..                 |  |  |  | 184                    | —                    | —        | 96                               | 26          | 54             | —             | 8              | —                              | —                | — |
| Morpeth ... ..                |  |  |  | 178                    | —                    | —        | 72                               | 10          | 82             | —             | 14             | —                              | —                | — |
| Norham & Islandshire ... ..   |  |  |  | 26                     | —                    | —        | 14                               | 9           | 3              | —             | —              | —                              | —                | — |
| Rothbury ... ..               |  |  |  | 10                     | —                    | —        | 2                                | 5           | 2              | —             | —              | —                              | —                | 1 |
| Tynemouth No. 1 ... ..        |  |  |  | 97                     | —                    | —        | 46                               | 18          | 10             | —             | 21             | —                              | —                | 2 |
| Tynemouth No. 2 ... ..        |  |  |  | 81                     | —                    | —        | 28                               | 14          | 38             | —             | 1              | —                              | —                | — |
| Totals ... ..                 |  |  |  | 1925                   | —                    | —        | 883                              | 270         | 545            | —             | 212            | 11                             | 4                |   |

#### ZYMOTIC DISEASES.

The zymotic diseases which are generally notifiable are Small-pox, Scarlatina, Diphtheria, and Fevers (Typhus, Enteric, Continued, and Relapsing). The seven principal zymotic diseases, upon which the zymotic death rate is calculated, are the four just mentioned, and in addition Measles, Whooping Cough and Diarrhœa.

Four hundred and sixty-seven deaths were caused by the seven principal zymotic diseases, being an increase of 100 compared with the number registered in 1907. Of these deaths 325 took place in the urban, and 142 in the rural districts.

The three zymotic diseases which caused the greatest mortality were :—

| Diseases.                       | Numbers in 1908. | Numbers in 1907. | Numbers in 1906. |
|---------------------------------|------------------|------------------|------------------|
| Diarrhœa ... ..                 | 217              | 88               | 208              |
| Whooping Cough ... ..           | 136              | 68               | 111              |
| Diphtheria and Membranous Croup | 59               | 75               | 80               |



As Diarrhœa, Whooping cough and Measles are not generally notifiable, I am unable to give any information as to the number of cases which occurred.

The following table shows the districts, urban and rural, in which the zymotic death rate was highest :—

| Urban.              | Death Rate. | Rural.              | Death Rate. |
|---------------------|-------------|---------------------|-------------|
| Earsdon ... ..      | 3·62        | Tynemouth No. 2 ... | 2·11        |
| Newburn ... ..      | 2·47        | Morpeth ... ..      | 1·94        |
| Willington Quay ... | 2·16        | Tynemouth No. 1 ... | 1·54        |

The lowest death rates from zymotic disease are shown in the next table :—

| Urban.                    | Death Rate. | Rural.          | Death Rate. |
|---------------------------|-------------|-----------------|-------------|
| Rothbury ... ..           | Nil.        | Belford ... ..  | 0·19        |
| Whitley and Monkseaton... | 0·41        | Rothbury ... .. | 0·20        |
| Amble ... ..              | 0·66        | Glendale ... .. | 0·45        |

The comparative rates are set out in the following table :—

|                           | Death Rate. | Increase since 1907. | Decrease since 1907. |
|---------------------------|-------------|----------------------|----------------------|
| Administrative County ... | 1·28        | 0·25                 | —                    |
| Urban districts ... ..    | 1·44        | 0·20                 | —                    |
| Rural districts ... ..    | 1·02        | 0·32                 | —                    |
| England and Wales ... ..  | 1·29        | 0·03                 | —                    |

During the year under consideration the zymotic death rate showed an increase in 12 urban and 7 rural districts; in 5 urban and 4 rural districts the rate showed a decrease.

Table showing death rates per 1,000 from each of the 7 principal zymotic diseases for the 5 years ending 1908 :—

| Diseases.         | 1904. | 1905. | 1906. | 1907. | 1908. | Increase 1907-1908. | Decrease 1907-1908. |
|-------------------|-------|-------|-------|-------|-------|---------------------|---------------------|
| Smallpox ... ..   | 0·06  | 0·01  | 0·002 | Nil.  | Nil.  | —                   | —                   |
| Scarlatina ... .. | 0·20  | 0·10  | 0·06  | 0·045 | 0·008 | —                   | 0·037               |
| Diphtheria ... .. | 0·12  | 0·16  | 0·23  | 0·210 | 0·162 | —                   | 0·048               |
| Fevers ... ..     | 0·08  | 0·09  | 0·11  | 0·030 | 0·088 | 0·058               | —                   |
| Measles ... ..    | 0·25  | 0·25  | 0·18  | 0·290 | 0·050 | —                   | 0·240               |
| Whooping Cough    | 0·59  | 0·11  | 0·32  | 0·190 | 0·370 | 0·18                | —                   |
| Diarrhœa ... ..   | 0·68  | 0·48  | 0·60  | 0·240 | 0·590 | 0·35                | —                   |

## Cases of zymotic diseases notified from each district :—

| 1<br>District.             | 2<br>Number<br>of cases<br>notified. | 3<br>Number of per-<br>sons per 1000,<br>attacked by<br>zymotic<br>diseases<br>notified.* | 4<br>Mortality rate<br>per 1000 from<br>zymotic<br>diseases<br>notified or<br>ascertained. | 5<br>Increase<br>since 1907. | 6<br>Decrease<br>since 1907. |
|----------------------------|--------------------------------------|---|--|------------------------------|------------------------------|
| URBAN.                     |                                      |   |  |                              |                              |
| Alnwick ... ..             | 18                                   | 2·6   | 1·02   | 0·88                         | —                            |
| Amble ... ..               | 38                                   | 6·3   | 0·66   | —                            | 0·67                         |
| Ashington ... ..           | 85                                   | 4·2   | 1·00   | —                            | 0·35                         |
| Bedlingtonshire ...        | 83                                   | 3·3   | 1·66   | 0·49                         | —                            |
| Berwick-on-Tweed, boro' of | 73                                   | 5·4   | 1·56   | 0·15                         | —                            |
| Blyth ... ..               | 89                                   | 3·2   | 1·67   | 0·01                         | —                            |
| Cramlington ... ..         | 12                                   | 1·7   | 1·76   | 1·03                         | —                            |
| Earsdon ... ..             | 103                                  | 10·0  | 3·62   | 1·82                         | —                            |
| Gosforth ... ..            | 62                                   | 4·1   | 0·86   | —                            | 0·21                         |
| Hexham ... ..              | 40                                   | 4·7   | 1·17   | 0·45                         | —                            |
| Morpeth, boro' of ...      | 19                                   | 2·8   | 2·11   | 1·50                         | —                            |
| Newbiggin-by-the-Sea ...   | 1                                    | 0·03  | 1·15   | 0·39                         | —                            |
| Newburn ... ..             | 94                                   | 5·9   | 2·47   | 0·50                         | —                            |
| Rothbury ... ..            | 1                                    | 0·74  | Nil.   | —                            | —                            |
| Seghill ... ..             | 3                                    | 1·3   | 0·90   | —                            | —                            |
| Wallsend, boro' of ...     | 154                                  | 5·5   | 0·85   | —                            | 0·72                         |
| Weetslade ... ..           | 27                                   | 4·9   | 1·10   | 0·37                         | —                            |
| Whitley & Monkseaton.      | 37                                   | 2·5   | 0·41   | —                            | 0·01                         |
| Willington Quay ...        | 20                                   | 2·1   | 2·16   | 1·07                         | —                            |
| RURAL.                     |                                      |   |  |                              |                              |
| Alnwick ... ..             | 77                                   | 6·0   | 0·78   | —                            | 0·16                         |
| Belford ... ..             | 8                                    | 1·5   | 0·19   | 0·19                         | —                            |
| Bellingham ... ..          | 20                                   | 3·3   | 0·66   | 0·33                         | —                            |
| Castle Ward ... ..         | 57                                   | 4·6   | 0·49   | —                            | 0·19                         |
| Glendale ... ..            | 25                                   | 2·8   | 0·45   | —                            | 0·12                         |
| Haltwhistle ... ..         | 30                                   | 3·1   | 1·14   | 0·30                         | —                            |
| Hexham ... ..              | 158                                  | 5·6   | 0·60   | 0·04                         | —                            |
| Morpeth ... ..             | 168                                  | 9·3   | 1·94   | 1·04                         | —                            |
| Norham & Islandshire ...   | 17                                   | 2·8   | 0·33   | 0·17                         | —                            |
| Rothbury ... ..            | 4                                    | 0·8   | 0·20   | —                            | —                            |
| Tynemouth No. 1 ...        | 77                                   | 6·5   | 1·54   | —                            | 0·03                         |
| Tynemouth No. 2 ...        | 67                                   | 4·4   | 2·11   | 1·42                         | —                            |

\* Exclusive of Measles, Whooping cough and Diarrhœa, the attack rate for which cannot be ascertained, owing to those diseases not being generally notified.

## CHOLERA.

No cases of Cholera occurred during the year.

## PLAGUE.

No cases were recognised in any part of the county.

## SMALL-POX.

*Small-pox.*—One case was notified during the year by the River Tyne Port Sanitary Authority. In the previous year 1, and during 1906, 6 cases were notified.

## CHICKEN-POX.

Chicken-pox was reported from thirteen (nine urban and four rural) sanitary districts; the chief interest in connection with the disease is its resemblance to a very modified type of Small-pox.

## SCARLATINA.

Five hundred and forty-five cases of Scarlatina were notified during the year; 304 in the urban, and 241 in the rural districts, causing 3 deaths. The mortality from this cause in 1907 was 16, and in 1906 the deaths numbered 24. The 3 deaths all occurred in urban districts.

The following table gives the comparative death rates:—

|                              | Death Rate<br>per 1,000. | Increase since<br>1907. | Decrease since<br>1907. |
|------------------------------|--------------------------|-------------------------|-------------------------|
| Administrative County ... .. | 0·008                    | —                       | 0·037                   |
| Urban districts ... ..       | 0·013                    | —                       | 0·028                   |
| Rural districts ... ..       | Nil.                     | —                       | 0·051                   |
| England and Wales ... ..     | 0·080                    | —                       | 0·010                   |

In the urban districts the greatest number of cases occurred in Wallsend (64), Earsdon (43), Blyth (27) and Newburn (25).

In the rural districts the greatest number of cases occurred in Morpeth (82), Hexham (54), and Tynemouth No. 2 (38).

The periods of the year during which Scarlet fever was most prevalent were the months of January, February, November and December.

The subjoined table gives, for the years 1899–1908, the number of persons per 1,000 living attacked by Scarlet fever, and the percentage of deaths of cases notified:—

| Year. | Urban Districts.                    |  | Rural Districts.                    |  | Administrative County               |  |
|-------|-------------------------------------|--|-------------------------------------|--|-------------------------------------|--|
|       | Attack rate<br>per 1,000<br>living. | No. of deaths<br>per cent. of<br>cases notified. | Attack rate<br>per 1,000<br>living. | No. of deaths<br>per cent. of<br>cases notified. | Attack rate<br>per 1,000<br>living. | No. of deaths<br>per cent. of<br>cases notified. |
| 1899  | 2·96                                | 3·3  | 3·58                                | 1·9  | 3·17                                | 2·8  |
| 1900  | 4·49                                | 4·3  | 4·61                                | 3·0  | 4·53                                | 3·9  |
| 1901  | 5·41                                | 3·9  | 5·94                                | 2·2  | 5·58                                | 3·4  |
| 1902  | 9·85                                | 3·1  | 7·24                                | 1·4  | 9·02                                | 2·7  |
| 1903  | 4·36                                | 7·2  | 21·42                               | 1·4  | 9·78                                | 3·1  |
| 1904  | 5·24                                | 2·7  | 8·04                                | 4·0  | 6·12                                | 3·2  |
| 1905  | 3·37                                | 3·0  | 4·60                                | 2·3  | 3·85                                | 2·7  |
| 1906  | 2·71                                | 3·4  | 2·76                                | 1·0  | 2·73                                | 2·5  |
| 1907  | 1·74                                | 2·3  | 3·08                                | 1·7  | 2·22                                | 2·0  |
| 1908  | 1·35                                | 0·9  | 1·74                                | Nil.   | 1·50                                | 0·5  |
| Mean. | 4·01                                | 3·4  | 6·30                                | 1·8  | 4·85                                | 2·6  |

The above-named disease was responsible for the Closure of Schools in the undermentioned districts for the times specified:—

In the Bellingham Rural District, Bellingham Undenominational (8 weeks).

In the Hexham Rural District, Chollerton (3 weeks).

## MEASLES.

Twenty deaths occurred from Measles, 12 of which were in the urban, and 8 in the rural districts.



The following table shows the comparative rates:—

|                       |     |     |     | Death<br>Rate<br>per 1,000. | Increase since<br>1907. | Decrease since<br>1907. |
|-----------------------|-----|-----|-----|-----------------------------|-------------------------|-------------------------|
| Administrative County | ... | ... | ... | 0·05                        | —                       | 0·24                    |
| Urban districts       | ... | ... | ... | 0·04                        | —                       | 0·33                    |
| Rural districts       | ... | ... | ... | 0·05                        | —                       | 0·11                    |
| England and Wales     | ... | ... | ... | 0·22                        | —                       | 0·14                    |

It was found necessary to resort to School Closure on account of the above-named disease in the undermentioned districts for the times specified:—

In the Earsdon Urban District, Murton Council (2 weeks).

In the Newburn Urban District, Bell's Close R.C. (2 weeks).

In the Whitley and Monkseaton Urban District, Whitley North Council (3 weeks) and Whitley C. of E. (5 weeks).

In the Bellingham Rural District, Rochester (6 weeks).

In the Castle Ward Rural District, Heddon-on-the-Wall (2 weeks).

In the Hexham Rural District, Ninebanks (7 weeks), and Hedley-on-the-Hill (3 weeks).

In the Norham and Islandshires Rural District, Norham (6 weeks), and Horncliffe (6 weeks).

In the Tynemouth Rural District, Benton Square (10 weeks).

#### MUMPS.

It was considered desirable to close schools on account of this disease in the following districts for the periods named:—

In the Alnwick Rural District, Newton-on-the-Moor (2½ weeks).

In the Hexham Rural District, Haydon Bridge (1 week), and Ninebanks (concurrently with Measles 7 weeks).

#### INFLUENZA.

The above-mentioned disease was the cause of School Closure in the following districts:—

In the borough of Morpeth, all schools for 1 week.

In Rothbury Urban District, Rothbury C. of E. (1 week).

In Alnwick Rural District, Alnmouth (2½ days), Milfield (2 weeks).

In the Belford Rural District, Beadnell (2 weeks), North Sunderland (2 weeks), Lucker (2 weeks), Newham (2 weeks).

In Bellingham Rural District, Falstone (1 week).

In Glendale Rural District, Kirknewton (2 weeks).

In Rothbury Rural District, Holystone (2 weeks), Longframlington (2 weeks), Netherton, Northside (1 week), Hepple (2 weeks), Wingates (1 week), and Callaly (1 week).

#### TYPHUS FEVER.

No cases of this disease were reported in the county during the year under consideration.

#### ENTERIC FEVER.

Two hundred and twelve cases of Enteric fever were notified during the year, resulting in 28 deaths. (The mortality from this cause in 1907 was 14; and in 1906, 37.) Of these deaths 21 occurred in the urban, and 7 in the rural districts.

The following table shows the comparative rates :—

|                       |     |     |     | Death<br>Rate<br>per 1,000. | Increase since<br>1907. | Decrease since<br>1907. |
|-----------------------|-----|-----|-----|-----------------------------|-------------------------|-------------------------|
| Administrative County | ... | ... | ... | 0·07                        | 0·04                    | —                       |
| Urban districts       | ... | ... | ... | 0·09                        | 0·04                    | —                       |
| Rural districts       | ... | ... | ... | 0·05                        | 0·03                    | —                       |
| England and Wales     | ... | ... | ... | *                           | —                       | —                       |

\*The Registrar General does not give the death rate for Enteric (or Typhoid) singly.

Of the 212 cases notified or ascertained during the year, 143 occurred in the urban and 69 in the rural districts.

The number of cases notified per 1,000 living was 0·58. In the boroughs and urban districts the greatest number of cases occurred in Bedlingtonshire (38), Ashington (25), and Morpeth (17).

In the rural districts the greatest number of cases occurred in Tynemouth No. 1 (21), Morpeth (14) and Castle Ward (10).

The periods of the year during which Enteric fever was most prevalent were the months of September (65 cases), October (52 cases), and November (35 cases).

The subjoined table gives, for the years 1899–1908, the number of persons per 1,000 attacked by Enteric fever, and the percentage of deaths occurring among the cases notified :—

| Year. | Urban Districts.                    |   | Rural Districts.                    |   | Administrative County.              |   |
|-------|-------------------------------------|---|-------------------------------------|---|-------------------------------------|---|
|       | Attack rate<br>per 1,000<br>living. | No. of deaths<br>per cent. of<br>cases notified | Attack rate<br>per 1,000<br>living. | No. of deaths<br>per cent. of<br>cases notified | Attack rate<br>per 1,000<br>living. | No. of deaths<br>per cent. of<br>cases notified |
| 1899  | 1·17                                | 27·6  | 0·70                                | 15·3  | 1·01                                | 24·7  |
| 1900  | 0·82                                | 21·5  | 0·56                                | 19·4  | 0·75                                | 21·0  |
| 1901  | 1·96                                | 17·7  | 1·37                                | 19·1  | 1·79                                | 18·1  |
| 1902  | 0·65                                | 16·2  | 0·63                                | 33·7  | 0·64                                | 21·7  |
| 1903  | 0·51                                | 23·9  | 0·43                                | 25·0  | 0·48                                | 24·2  |
| 1904  | 0·56                                | 16·8  | 0·45                                | 11·6  | 0·50                                | 15·4  |
| 1905  | 0·76                                | 16·8  | 0·47                                | 6·3   | 0·64                                | 13·8  |
| 1906  | 0·70                                | 20·1  | 0·49                                | 10·4  | 0·62                                | 17·1  |
| 1907  | 0·33                                | 15·2  | 0·22                                | 9·6   | 0·29                                | 13·5  |
| 1908  | 0·63                                | 14·6  | 0·49                                | 10·1  | 0·58                                | 13·2  |
| Mean. | 0·80                                | 19·0  | 0·56                                | 16·0  | 0·73                                | 18·2  |

#### DIPHTHERIA AND MEMBRANOUS CROUP.

Eight hundred and eighty-three cases were notified during the year (486 cases from urban, and 397 from rural districts.)

The diseases (one or both of them) were notified or ascertained from the following 30 districts (29 districts in 1907) :—

*Boroughs.*—Berwick-on-Tweed, Morpeth, and Wallsend.

*Urban districts.*—Alnwick, Amble, Ashington, Bedlingtonshire, Blyth, Cramlington, Earsdon, Gosforth, Hexham, Newbiggin-by-the-Sea, Newburn, Rothbury, Weetslade, Whitley and Monkseaton, and Willington Quay.

*Rural districts.*—Alnwick, Belford, Bellingham, Castle Ward, Glendale, Haltwhistle, Hexham, Morpeth, Norham and Islandshire, Rothbury, Tynemouth No. 1 and Tynemouth No. 2.



Fifty-nine deaths occurred from the above diseases during the year; 36 deaths were registered in the urban, and 23 in the rural districts.

The following table shows the comparative rates:—

|                       |     |     | Death<br>Rate<br>per 1,000. | Increase since<br>1907. | Decrease since<br>1907. |
|-----------------------|-----|-----|-----------------------------|-------------------------|-------------------------|
| Administrative County | ... | ... | 0·162                       | —                       | 0·048                   |
| Urban districts       | ... | ... | 0·160                       | —                       | 0·060                   |
| Rural districts       | ... | ... | 0·166                       | —                       | 0·014                   |
| England and Wales     | ... | ... | 0·150                       | —                       | 0·010                   |

The subjoined table gives, for the years 1899–1908, the number of persons per 1,000 living attacked by Diphtheria and Membranous Croup, and the percentage of deaths among cases notified:—

| Year. | Urban Districts.                    |   | Rural Districts.                    |   | Administrative<br>County.           |   |
|-------|-------------------------------------|---|-------------------------------------|---|-------------------------------------|---|
|       | Attack rate<br>per 1,000<br>living. | No. of deaths<br>per cent. of<br>cases notified | Attack rate<br>per 1,000<br>living. | No. of deaths<br>per cent. of<br>cases notified | Attack rate<br>per 1,000<br>living. | No. of deaths<br>per cent. of<br>cases notified |
| 1899  | 0·60                                | 36·8  | 0·63                                | 34·8  | 0·63                                | 36·1  |
| 1900  | 0·50                                | 25·5  | 0·43                                | 18·1  | 0·48                                | 23·4  |
| 1901  | 0·50                                | 23·3  | 0·75                                | 14·8  | 0·57                                | 19·8  |
| 1902  | 0·41                                | 20·5  | 2·25                                | 11·5  | 1·00                                | 14·0  |
| 1903  | 0·43                                | 26·6  | 2·12                                | 20·2  | 0·98                                | 22·1  |
| 1904  | 0·47                                | 17·0  | 1·17                                | 16·2  | 0·68                                | 17·4  |
| 1905  | 0·60                                | 22·3  | 1·30                                | 14·5  | 0·93                                | 18·0  |
| 1906  | 1·64                                | 17·6  | 1·41                                | 9·9   | 1·55                                | 14·8  |
| 1907  | 2·42                                | 9·4   | 1·87                                | 9·8   | 2·20                                | 9·5   |
| 1908  | 2·16                                | 7·4   | 2·86                                | 5·8   | 2·43                                | 6·6   |
| Mean. | 0·97                                | 18·8  | 1·48                                | 15·5  | 1·14                                | 18·1  |

School Closure was found necessary on account of the above-named disease in the undermentioned districts for the times specified:—

In the Earsdon Urban District, Earsdon (1 week).

In the Alnwick Rural District, Boulmer Council (9 weeks), Longhoughton (14 weeks).

In the Bellingham Rural District, Rochester (4 weeks), Elsdon (6 weeks).

In the Castle Ward Rural District, Capheaton (3 weeks).

In the Haltwhistle Rural District, Haltwhistle Council (3 weeks).

In the Hexham Rural District, Hardhaugh (1 week), Haydon Bridge (7 weeks), and Ovington (3 weeks).

#### WHOOPIING COUGH.

One hundred and thirty-six deaths were caused by Whooping cough, 94 of which took place in the urban, and 42 in the rural districts.

The following table shows the comparative rates:—

|                       |     |     | Death<br>Rate.<br>per 1,000. | Increase since<br>1907. | Decrease since<br>1907. |
|-----------------------|-----|-----|------------------------------|-------------------------|-------------------------|
| Administrative County | ... | ... | 0·37                         | 0·18                    | —                       |
| Urban districts       | ... | ... | 0·41                         | 0·19                    | —                       |
| Rural districts       | ... | ... | 0·30                         | 0·17                    | —                       |
| England and Wales     | ... | ... | 0·27                         | 0·02                    | —                       |

Recourse to School Closure owing to the above-named disease was considered necessary in the undermentioned districts for the times specified :—

In the Bedlingtonshire Urban District, Cambois Infants (5 weeks).

In the Earsdon Urban District, Backworth Council (3 weeks), Backworth R.C. (2 weeks).

In the Rothbury Urban District, Rothbury C. of E. Infants (6 weeks).

In the Alnwick Rural District, Dunstan (5 weeks), Rennington (3½ weeks).

In the Glendale Rural District, Crookham (6 weeks).

In the Haltwhistle Rural District, Herdley Bank (1 week).

In the Hexham Rural District, Horsley (3 weeks), and Newton Hall (3 weeks).

In the Norham and Islandshires Rural District, Horncliffe (8 weeks).

In the Rothbury Rural District, Hepple (3 weeks).

In the Tynemouth Rural District, Holystone (3 weeks), Burradon (1 week), and Westmoor (2 weeks).

#### PUERPERAL FEVER.

This disease caused 8 deaths during the year, as compared with 7 in 1907. Four of these deaths occurred in the urban and 4 in rural districts.

The following table indicates the comparative rates :—

|                              | Death<br>Rate.<br>per 1,000. | Increase since<br>1907. | Decrease since<br>1907. |
|------------------------------|------------------------------|-------------------------|-------------------------|
| Administrative County ... .. | 0·022                        | 0·012                   | —                       |
| Urban districts ... ..       | 0·017                        | 0·007                   | —                       |
| Rural districts ... ..       | 0·028                        | 0·008                   | —                       |

#### ERYSIPELAS.

Erysipelas caused 4 deaths during the year; 3 in the urban, and 1 in the rural districts.

The comparative rates will be seen by reference to the following table :—

|                              | Death<br>Rate<br>per 1,000. | Increase since<br>1907. | Decrease since<br>1907. |
|------------------------------|-----------------------------|-------------------------|-------------------------|
| Administrative County ... .. | 0·011                       | —                       | 0·020                   |
| Urban districts ... ..       | 0·013                       | —                       | 0·014                   |
| Rural districts ... ..       | 0·007                       | —                       | 0·029                   |

#### DIARRHŒA.

The number of deaths from this cause was 217, as compared with 88 in 1907, and 208 in 1906. Of these deaths 158 occurred in urban, and 59 in rural districts :—

The following table shows the comparative rates :—

|                              | Death<br>Rate<br>per 1,000. | Increase since<br>1907. | Decrease since<br>1907. |
|------------------------------|-----------------------------|-------------------------|-------------------------|
| Administrative County ... .. | 0·59                        | 0·35                    | —                       |
| Urban districts ... ..       | 0·70                        | 0·39                    | —                       |
| Rural districts ... ..       | 0·42                        | 0·28                    | —                       |
| England and Wales ... ..     | 0·50                        | 0·21                    | —                       |

## TUBERCULOSIS.

The following table shows the deaths and death rates arising from all forms of Tuberculosis in the county for the years 1900–1908 :—

| Year.    | Phthisis. |                                | Other tubercular diseases. |                                | Total deaths from Tuberculosis. |                                |
|----------|-----------|--------------------------------|----------------------------|--------------------------------|---------------------------------|--------------------------------|
|          | Deaths.   | Death Rate per 100,000 living. | Deaths.                    | Death Rate per 100,000 living. | Deaths.                         | Death Rate per 100,000 living. |
| 1900 ... | 537       | 138                            | 244                        | 62                             | 781                             | 200                            |
| 1901 ... | 495       | 125                            | 280                        | 71                             | 775                             | 198                            |
| 1902 ... | 498       | 125                            | 240                        | 60                             | 738                             | 185                            |
| 1903 ... | 485       | 119                            | 323                        | 79                             | 808                             | 198                            |
| 1904 ... | 490       | 117                            | 317                        | 76                             | 807                             | 193                            |
| 1905 ... | 344       | 102                            | 239                        | 71                             | 583                             | 178                            |
| 1906 ... | 362       | 104                            | 208                        | 60                             | 570                             | 164                            |
| 1907 ... | 355       | 100                            | 197                        | 55                             | 552                             | 155                            |
| 1908 ... | 344       | 95                             | 220                        | 60                             | 564                             | 155                            |

Of the 564 deaths caused by Tuberculosis 383 occurred in boroughs and urban districts (population 224,485), and 181 in rural districts (population 138,297).

## PHTHISIS.

Three hundred and forty-four deaths were caused by this disease in the administrative county during the year, distributed as follows:—218 in the boroughs and urban districts (with a population of 218,485), and 126 in rural districts (with a population of 138,297). The number of deaths in 1907 was 355 and in 1906, 362.

The comparative rates are shown in the following table :—

|                       |     |     |     | Death Rate per 1,000. | Increase since 1907. | Decrease since 1907. |
|-----------------------|-----|-----|-----|-----------------------|----------------------|----------------------|
| Administrative County | ... | ... | ... | 0·95                  | —                    | 0·05                 |
| Urban districts       | ... | ... | ... | 0·97                  | —                    | 0·01                 |
| Rural districts       | ... | ... | ... | 0·91                  | —                    | 0·12                 |
| England and Wales     | ... | ... | ... | *                     | —                    | —                    |

\* The Registrar-General does not give the death rate except for London.

The three highest Phthisis death rates per 1,000 living were recorded in the following districts :—

| Urban Districts. |        | Phthisis Death Rate. | Rural Districts.     |        | Phthisis Death Rate. |
|------------------|--------|----------------------|----------------------|--------|----------------------|
| Alnwick          | ... .. | 2·205                | Norham & Islandshire |        | 1·15                 |
| Weetslade        | ... .. | 2·200                | Alnwick              | ... .. | 1·02                 |
| Berwick          | ... .. | 1·630                | Glendale             | ... .. | 1·02                 |

The three lowest were recorded as under :—

| Urban Districts. |        | Phthisis Death Rate. | Rural Districts. |        | Phthisis Death Rate. |
|------------------|--------|----------------------|------------------|--------|----------------------|
| Amble            | ... .. | Nil.                 | Morpeth          | ... .. | 0·72                 |
| Willington Quay  | ... .. | 0·75                 | Castle Ward      | ... .. | 0·73                 |
| Newbiggin        | ... .. | 0·76                 | Belford          | ... .. | 0·76                 |
| Rothbury         | ... .. | 0·76                 |                  |        |                      |



The subjoined table indicates the deaths per 1,000 living caused by Phthisis during the ten years 1899–1908 :—

| Year.       | Urban Districts. | Rural Districts. | Administrative County. |
|-------------|------------------|------------------|------------------------|
| 1899 ... .. | 1·34             | 1·13             | 1·27                   |
| 1900 ... .. | 1·41             | 1·30             | 1·38                   |
| 1901 ... .. | 1·27             | 1·19             | 1·25                   |
| 1902 ... .. | 1·25             | 1·24             | 1·25                   |
| 1903 ... .. | 1·29             | 0·98             | 1·19                   |
| 1904 ... .. | 1·20             | 1·12             | 1·17                   |
| 1905 ... .. | 1·09             | 0·92             | 1·02                   |
| 1906 ... .. | 1·04             | 1·04             | 1·04                   |
| 1907 ... .. | 0·98             | 1·03             | 1·00                   |
| 1908 ... .. | 0·97             | 0·91             | 0·95                   |
| Mean ... .. | 1·18             | 1·08             | 1·15                   |

The Sanatorium at Barrasford (the only institution for the treatment of Phthisis in the county) continued to do good work. During the year 44 patients were sent in by the Newcastle Corporation, and 36 were received from the county of Northumberland. Of the 89 patients, 55 were males and 34 females. At the end of the year 42 were in residence at the Sanatorium, and 70 had been discharged.

*Results of Treatment.*—Of the 70 patients discharged during the year, 12 furnished no signs of the disease at the time of their discharge, 27 were much improved, 20 were improved, and in 10 no improvement had taken place.

#### RESPIRATORY DISEASES.

Respiratory diseases (exclusive of Phthisis), caused 671 deaths in the Administrative County during the year, 435 taking place in the urban and 236 in the rural districts.

The following table shows the comparative rates :—

|                              | Death Rate per 1,000. | Increase since 1907. | Decrease since 1907. |
|------------------------------|-----------------------|----------------------|----------------------|
| Administrative County ... .. | 1·84                  | 0·13                 | —                    |
| Urban districts ... ..       | 1·93                  | 0·12                 | —                    |
| Rural districts ... ..       | 1·70                  | 0·22                 | —                    |

The three highest respiratory death rates per 1,000 population were recorded in the following districts :—

| Urban Districts.       | Respiratory Death Rate. | Rural Districts.       | Respiratory Death Rate. |
|------------------------|-------------------------|------------------------|-------------------------|
| Willington Quay ... .. | 3·47                    | Tynemouth No. 2 ... .. | 2·84                    |
| Morpeth ... ..         | 3·15                    | Haltwhistle ... ..     | 2·70                    |
| Cramlington ... ..     | 3·08                    | Belford ... ..         | 2·09                    |

The three lowest were recorded as under :—

| Urban Districts.            | Respiratory Death Rate. | Rural Districts.            | Respiratory Death Rate. |
|-----------------------------|-------------------------|-----------------------------|-------------------------|
| Rothbury ... ..             | Nil.                    | Alnwick ... ..              | 0·78                    |
| Whitley & Monkseaton ... .. | 0·89                    | Bellingham ... ..           | 0·83                    |
| Gosforth ... ..             | 0·93                    | Norham & Islandshire ... .. | 0·99                    |

### FACTORY AND WORKSHOP ACT, 1901.

In the report for 1907 the duties and powers of sanitary authorities were briefly stated, and need not now be repeated. The forms supplied by the Home Office were, with 8 exceptions, made use of by the medical officers of health and included in their annual reports.

In only 7 instances were any returns made of homeworkers, and, according to these returns, there were only 27 homeworkers in the administrative county.

### NOTIFICATION OF BIRTH ACT, 1907.

The aims and objects of this Act were fully explained in the annual report for 1907.

It is much to be regretted that so few sanitary authorities have seriously considered the advisability of adopting the Notification of Births Act and that the great majority appear to view, with complacency, a death rate of children during the first month of life of about 55, and during the first year, of anything up to 200 per thousand births. If such a mortality were to take place among lambs, a Royal Commission would be appointed and measures would be adopted for preventing such an unnatural mortality. Lambs, however, are frequently worth fifty shillings each when six months old; apparently babies are not.

The advisability of adopting the Notification of Births Act has been considered by a few local authorities, but up to the end of the year 1908 the Act had been adopted in only one instance.

### MIDWIVES ACT, 1902.

The administration of the Midwives Act was carried out, during the year, without friction and with most encouraging results. The report of the inspector of midwives afforded evidence of a considerable amount of work done in a thorough and conscientious manner and of the satisfactory way in which the trained midwives carry on their work; also of the progress the untrained midwives have made.

Two untrained midwives were reported by the committee's direction to the Central Midwives Board during the year under consideration with the result that their names were removed from the Roll.

It is satisfactory to note that the leaflet—"Advice to Mothers"—appears to be preserved and acted upon in several of the houses visited, a course which will doubtless result in much benefit to both the mothers and their children.

Notices of intention to practise were received from all midwives practising in the county. The number of trained midwives practising as such has increased from seventy-four in the previous year to eighty-one in 1908. The confinements attended by the trained women in 1908 numbered 1841 as compared with 1446 during the previous year; the number undertaken by untrained midwives was 584, making a total of 2,425 or 22.68 per cent. of the total births in the county. It follows that 77.32 per cent. of the total confinements were attended by medical practitioners or by uncertified women.

The names of sixteen trained women were added to the Roll during the year; of these, five were trained in general and maternity nursing through scholarships granted by the Education Committee of the County Council and three received their training through funds provided by the Northumberland County Nursing Association.

The number of untrained women practising in the county has decreased from twenty-four in the year 1907 to twenty-one in 1908. Fourteen notices were received from ten midwives of having sent for medical help. Seventeen still-births occurred in the practice of nine midwives. No mother and only one child died before a medical practitioner was in attendance.



Experience of the working of the Midwives Act indicate that certain amendments or alterations are desirable, both in the Act and in the Rules issued by the Central Midwives Board; *e.g.* :—

### I.—*Under the Midwives Act.*

The terms “under the direction of a qualified medical practitioner” (Sec. 1 (2)) and “to practise as a midwife” (Sec. 10, first paragraph), also “acts as a midwife” (Sec. 10, second paragraph) need further definition. Until the term “under the direction of a qualified medical practitioner” (Sec. 1 (2)) is more clearly defined there may be a danger of “covering,” *e.g.*, if a medical practitioner is engaged but is not sent for *unless any complication arises*.

It is desirable that the Local Supervising Authority should have power to suspend a midwife temporarily for misconduct, and not solely, as at present, to prevent the spread of disease, (Sec. 8 (3) and Rules F); that the obligation of midwives to give notice of intention to practise should be extended so as to include the obligation to give such notice from every fresh address and to notify every change of address; that the possession of a certificate by a woman whose name is not on the register should be a punishable offence and that a penalty should be attached for making a false entry as to still-births, etc., in a midwife’s case book.

### II.—*Under the Rules of the Central Midwives Board.*

The obligation of midwives to give notice of intention to practise, including the obligation to give such notice from every fresh address and to notify every fresh address should be included in the Rules.

It is desirable that every confinement attended by a midwife to its termination, even if a doctor has been engaged and sent for, should be entered in the midwife’s case book, inasmuch as she would have been acting as a midwife and not as a monthly nurse (E. 22); that provision should be made for securing payment to medical practitioners called in to assist a midwife (E. 18); that the Local Supervising Authority should receive notice of the Central Midwives Board’s intention to hold an inquiry, and that Local Supervising Authorities should have the right to be represented and to give evidence or cross-examine witnesses, etc. (D. 2); that no woman whose name has been removed from the Roll should be re-instated without consultation with, or reference to, the Local Supervising Authority (D. 12-17); that midwives in Poor Law Institutions should be subject to inspection by the Local Supervising Authority (E. 25).

A suggestion has been made that the entire operation of the Act should be suspended in sparsely populated areas, and also that the Local Supervising Authority should have power to grant to suitable uncertified women, with or without examination, a modified licence, renewable at short intervals.

It appears highly undesirable that either of the above suggestions should be carried into effect.

### *Miss White reports as follows:—*

There were 21 untrained midwives in practice in the county at the end of the year and the number of cases attended by them in 1908 was 584. The number of still-births was 17, six of them occurring in the practice of one midwife whose total number of cases during the year was 121. Five of the still-births are entered in her register as premature. I visited two of the still-birth cases myself, and was informed by the patients that labour had come on at the sixth month. All the other cases were normal and the mothers and infants did well while they were in the midwife’s hands.

With one notable exception the untrained midwives under my supervision are clean, conscientious, capable women who are striving to live

up to the rules of the Board. Most of them, though not quite all, wear cotton dresses when attending a confinement. Their bags of appliances are kept clean and in good order, and they constantly use the disinfectant supplied by the County Council.

I have paid surprise visits of inspection to each of them at regular intervals, and have always found them and their surroundings clean and satisfactory. I have paid altogether 79 visits to midwives during the year and two to uncertified women in practice in the county. One midwife died, 11 have left the county, and two have had their names removed from the Roll.

At the end of the year 81 trained midwives were working in the county; these attended 1,841 cases, making a total of 2,425 for the year. I and my assistant have paid 291 visits of inspection to these, the total of visits to all classes being 372.

The nurses and midwives are continuing to circulate the leaflet—"Advice to Mothers"—amongst their patients, and I have noticed on several occasions the leaflet occupying a prominent position on the wall in the patient's room. From these and other signs I am hopeful that the young mothers especially are profiting by the "advice."

Considerable difficulty was, from time to time, experienced in obtaining medical help from the practitioner whose assistance was wished for by the patient, as several medical men gave notice that under no circumstances would they go to the assistance of a midwife. This action is accounted for as follows:—

1. By the disinclination which medical practitioners naturally feel to being summoned to difficult, and, possibly, mismanaged labours, for which they then have to take full responsibility, though they have not had the conduct of the case throughout.
2. Because of there being no provision in the Act for the payment of medical practitioners who are summoned to the help of a midwife.

The difficulties surrounding the whole subject are but little appreciated by the general public who, from long habit, have become so accustomed to regard a medical practitioner as a humane man who is expected, with or without any prospect of remuneration, to give up his night's rest or allow all his plans for the day's work to be upset, and go at once to a confinement, that it seems but a short step further for him to do all this in the case of a labour attended (!) and probably mismanaged by an absolutely untrained woman, in which case he also, of necessity, is saddled with all the responsibility and all the after attendance.

Experience proves that in hardly any case does the medical practitioner receive any remuneration for his time, skill and worry; the husband of the patient either says he will pay and does not, or he says he cannot pay the doctor, as well as the midwife; in either case the former gets nothing. The Local Government Board have indicated that Boards of Guardians are fully empowered to pay the fees of medical practitioners who are called to assist midwives, but Boards of Guardians have not, as a rule, shown any readiness to adopt the suggestions of the Local Government Board in this matter.

The difficulties inseparable from midwifery practice are also greatly increased in rural districts where several miles must frequently be travelled by the medical practitioner both for the conduct of the labour and for the after attendance.

Difficulties were still experienced in getting the untrained midwives' case books filled in and in educating them to use and read a thermometer. Those, however, who cannot write, get a daughter or friend to make the necessary entries, and the inspector, during her visits, instructs and tests the illiterate midwives in the use of a thermometer, though, in some cases, it appears to be almost a hopeless task.



### THE PUBLIC HEALTH ACTS AMENDMENT ACT, 1907.

Under this Act local authorities are able to obtain *inter alia*, greatly increased powers in sanitary matters and to adopt numerous clauses relating to buildings, streets, sewers, milk supplies, common lodging houses, slaughter houses and recreation grounds, which in the past were only obtainable by promoting costly local Acts.

In 10 boroughs and urban districts parts or sections of the above Act have now been adopted.

No advantage has been taken in 9 boroughs and urban districts nor in any rural district of the increased powers given under this Act.

### EDUCATION (ADMINISTRATIVE PROVISIONS) ACT, 1907.

During the year under review, the Education Authority gave prolonged consideration to the best available means for carrying out their obligations as far as they relate to the medical inspection of children attending public elementary schools, and a scheme was elaborated for carrying out the requirements of the Act. The full details of the scheme and an account of the work accomplished up to the end of the year appear in the Annual Report of the School Medical Officer.

The number of schools closed on account of infectious disease is given later in this report, under the head of diseases—Diphtheria, &c.—on account of which school closure was deemed necessary.

### SALE OF FOOD AND DRUGS ACT.

The samples taken for analysis under the Sale of Food and Drugs Act during the year, and the result of the analyses, &c., are shown in the following table:—

| No. of Samples. | Description of Article. | Result of Analysis. | Proceedings (if any). |
|-----------------|-------------------------|---------------------|-----------------------|
|-----------------|-------------------------|---------------------|-----------------------|

#### *For the Quarter ended 31st March, 1908.*

|    |                     |                        |                |
|----|---------------------|------------------------|----------------|
| 1  | Cornflour ... ..    | Pure ... ..            | Nil            |
| 1  | Rum ... ..          | Pure ... ..            | Nil            |
| 12 | Whisky ... ..       | Pure ... ..            | Nil            |
| 6  | Milk ... ..         | 2 Adulterated ... ..   | 2 Prosecutions |
| 2  | Lard ... ..         | Pure ... ..            | Nil            |
| 3  | Butter ... ..       | 1 Doubtful Genuineness | Nil            |
| 1  | Blackcurrant Jam    | Pure ... ..            | Nil            |
| 1  | Malt Vinegar ...    | Pure ... ..            | Nil            |
| 1  | Camphorated Oil ... | Pure ... ..            | Nil            |
| 2  | Ice Cream... ..     | Pure ... ..            | Nil            |
| 2  | Sweets ... ..       | Pure ... ..            | Nil            |

#### *For the Quarter ended 30th June, 1908.*

|    |                     |                        |                                     |
|----|---------------------|------------------------|-------------------------------------|
| 10 | Milk ... ..         | 3 Adulterated ... ..   | {<br>2 Prosecutions<br>1 Conviction |
| 6  | Whisky ... ..       | Pure ... ..            | Nil                                 |
| 6  | Butter ... ..       | 2 Doubtful Genuineness | Nil                                 |
| 1  | Sweets ... ..       | Pure ... ..            | Nil                                 |
| 2  | Coffee ... ..       | Pure ... ..            | Nil                                 |
| 1  | Cream of Tartar ... | Pure ... ..            | Nil                                 |
| 1  | Olive Oil ... ..    | Pure ... ..            | Nil                                 |
| 1  | Rum ... ..          | Pure ... ..            | Nil                                 |



| No. of Samples. | Description of Article. | Result of Analysis. | Proceedings (if any). |
|-----------------|-------------------------|---------------------|-----------------------|
|-----------------|-------------------------|---------------------|-----------------------|

*For the Quarter ended 30th September, 1908.*

|    |                                |                        |               |
|----|--------------------------------|------------------------|---------------|
| 19 | Milk ... ..                    | 5 Adulterated ... ..   | 2 Convictions |
| 1  | Skimmed Milk ... ..            | Pure ... ..            | Nil           |
| 1  | Preserved Green Peas           | 1 Doubtful Genuineness | Nil           |
| 1  | Tea ... ..                     | Pure ... ..            | Nil           |
| 1  | Cream ... ..                   | 1 Adulterated ... ..   | 1 Prosecution |
| 2  | Blackcurrant Jam..             | Pure ... ..            | Nil           |
| 1  | Camphorated Oil...             | Pure ... ..            | Nil           |
| 7  | Lard ... ..                    | Pure ... ..            | Nil           |
| 2  | Vinegar ... ..                 | Pure ... ..            | Nil           |
| 8  | Butter ... ..                  | 1 Adulterated ... ..   | Nil           |
| 4  | Rum ... ..                     | Pure ... ..            | Nil           |
| 15 | Whisky ... ..                  | 1 Adulterated ... ..   | 1 Conviction. |
| 1  | Ground Ginger ... ..           | Pure ... ..            | Nil           |
| 1  | Port Wine ... ..               | Pure ... ..            | Nil           |
| 1  | Cornflower ... ..              | Pure ... ..            | Nil           |
| 2  | White Pepper ... ..            | Pure ... ..            | Nil           |
| 1  | Chocolate Cream ... ..         | Pure ... ..            | Nil           |
| 1  | Gin ... ..                     | Pure ... ..            | Nil           |
| 3  | Black Pepper ... ..            | Pure ... ..            | Nil           |
| 1  | Compound<br>Liquorice Powder.. | Pure ... ..            | Nil           |
| 1  | Cream of Tartar ... ..         | Pure ... ..            | Nil           |

*For the Quarter ended 31st December, 1908.*

|    |                         |                        |                                   |
|----|-------------------------|------------------------|-----------------------------------|
| 31 | Milk ... ..             | 8 Adulterated ... ..   | { 6 Prosecutions<br>2 Convictions |
| 1  | Cream ... ..            | Pure ... ..            | Nil                               |
| 6  | Butter ... ..           | 1 Doubtful Genuineness | Nil                               |
| 1  | Ground Cassia ... ..    | Pure ... ..            | Nil                               |
| 1  | Fruit Wine ... ..       | 1 Adulterated ... ..   | 1 Prosecution                     |
| 17 | Whisky ... ..           | Pure ... ..            | Nil                               |
| 2  | Gin ... ..              | Pure ... ..            | Nil                               |
| 1  | Tea... ..               | Pure ... ..            | Nil                               |
| 1  | Arrowroot... ..         | Pure ... ..            | Nil                               |
| 1  | Iodide of Potash ... .. | 1 Adulterated ... ..   | 1 Prosecution                     |
| 1  | Vinegar ... ..          | Pure ... ..            | Nil                               |
| 3  | Malt Vinegar ... ..     | Pure ... ..            | Nil                               |
| 1  | Blackcurrant Jam..      | Pure ... ..            | Nil                               |
| 1  | Pickled Onions ... ..   | Pure ... ..            | Nil                               |
| 1  | Baking Powder ... ..    | Pure ... ..            | Nil                               |
| 3  | Rum ... ..              | Pure ... ..            | Nil                               |
| 1  | Lard ... ..             | Pure ... ..            | Nil                               |
| 2  | Brandy ... ..           | 1 Adulterated ... ..   | Nil                               |

DAIRIES, COWSHEDS AND MILKSHOPS.

In twenty-seven of the annual reports (15 for boroughs and urban districts, and 12 for rural districts) some mention was made of the condition of the above, but only one reference is made to a diseased animal having been eliminated from the herd. The chief features emphasised by the medical officers are the necessity for greater cleanliness in the condition of cowsheds and the adoption of precautions to avoid contamination of the milk during milking operations. In one instance the urgent need of a water supply to facilitate cleansing of cowsheds is commented on. Other matters alluded to are the necessity for better drainage, greater regularity in limewashing and more frequent removal of manure.

Regulations under the Dairies, Cowsheds and Milkshops Order have been adopted in all the boroughs, in 15 of the urban and in 6 of the rural districts. They are, for the most part, the model regulations of the Local Government Board, and, as has been pointed out in former annual reports, are so favourable to evasion as, in many instances, to be of very little practical value; for instance, under the head of lighting, drainage and ventilation, the Board's regulations stipulate cowsheds must be "sufficiently" lighted, drained so that all liquid matter . . . may be conveyed by a "suitable" open channel to a drain inlet in the open air at a "proper" distance from any door or window of such cowshed, and also "sufficiently" ventilated, but since no standard of lighting or ventilation is given, these are supposed, by some occupiers, to be sufficiently provided for if the cowshed is absolutely dark and unventilated, except when the door is open.

In some districts a definite standard of air-space is required—600 to 800 cubic feet—but efficient ventilation is of far greater importance than cubic air-space, and no allusion made to inadequate lighting or ventilation by medical officers of health.

In three districts ventilation is required by windows being placed in either opposite walls or in walls and roofs, and in three other districts special regulations are in force relating to lighting.

#### RIVERS POLLUTION PREVENTION ACTS.

*River Tweed*—A communication was received by the County Council from the Local Government Board enclosing a copy of a letter from the Roxburgh County Council. The latter communication stated that the report of the Inspectors, appointed by Government, had been considered by the Roxburgh County Council, and that they had resolved to request the Local Government Board for England and the Secretary for Scotland to proceed with the constitution of a Joint Committee for the basin of the river Tweed and its tributaries. The Northumberland County Council resolved to "concur in the application for a provisional order constituting a Joint Committee or other body representing the counties through or by which the river passes, and conferring on such committee or body all the powers of a sanitary authority under the Rivers Pollution Prevention Act 1876, but not committing the council to details." The Property and Sanitation Committee of the Northumberland County Council resolved in December that a certified copy of the foregoing resolution of the County Council be sent to the Government Departments concerned, simultaneously with representations from the County Councils of Berwickshire and Roxburgh.

*Ashington Urban District*.—Pollution of the Haydon Letch and river Lyne by sewage from this district.

The county medical officer reported in May that the conditions previously reported were, with few exceptions, unchanged and that no action appeared to have been taken towards affording facilities for a satisfactory supply of water to stock grazing in fields through or past which the Haydon Letch flows. A communication was received from the District Council in June stating that arrangements had been made for each of the fields to be supplied; no further action appeared, however, to have been taken by the District Council during the year to remedy the conditions complained of.

*Bedlingtonshire Urban District*.—The county medical officer, in a report on the general sanitary condition of this urban district, alluded to the pollution, by untreated sewage from various places in the district, of the river Wansbeck, the Willow burn, the Sleek burn, the Netherton lech, the Green lech, and the river Blyth. A copy of the report was sent to the District Council, but at the end of the year no definite steps appeared to have been taken to remedy the pollutions complained of.

*Cramlington Urban District*.—The pollution of the Horton burn by sewage from a population of about 600 near Cramlington station was greatly reduced by the provision of new sewage disposal works on modern lines in Crawhall Lane.



*Earsdon Urban District*.—Pollution of the Seaton burn by imperfectly treated sewage from Holywell. No definite steps appear to have been taken during the year to obviate the above-named pollution.

*Rothbury Urban District*.—Pollution of the river Coquet by cruied sewage from Rothbury. A further inquiry was held by an Inspector of the Local Government Board to consider the application of the District Council for sanction to borrow money for the purpose of carrying out a scheme of sewerage and sewage disposal, and the sanction of the Board was obtained to a loan of £5,064.

*Seghill Urban District*.—Pollution of the Seaton burn. The scheme for treating the remainder of the sewage from the village by the provision of further works similar to those described in the preceding annual report was completed, and the proceedings which had been instituted against the District Council were abandoned.

*Castle Ward Rural District*.—Pollution of the rivers Pont and Blyth by sewage from various places in this sanitary district. Some measures were adopted for obviating the above-named pollution at Galiowhill, Ogle, Capheaton Hall and Village, and Stannington.

*Haltwhistle Rural District*.—Pollution of the river Tyne and its tributaries. The imperfectly treated sewage from the irrigation ground at Haltwhistle continued at the end of the year to be a source of pollution.

*Hexham Rural District*.—The river Tyne and its tributaries were polluted at many points above high water mark these pollutions have formed the subject of several reports to the Property and Sanitation Committee. The following steps were taken during the year to obviate the conditions complained of:—At Hedley-on-the-Hill sewage disposal works were completed. Inquiries were held during the year by Inspectors of the Local Government Board to consider applications for sanction to borrow money for works of sewerage and sewage disposal for Beaumont Wood and Riding Dene Honses, Mickley, for the township of Wylam and for Stocksfield in the township of Broomley.

*Morpeth Rural District*.—Considerable pollution of watercourses was in evidence up to the end of the year. Some measures have been adopted for dealing with the above conditions at the following places:—Fenrother, Tritlington Village, Longhirst Station, Longhirst Crossing Cottages and Houndalee.

*Norham and Islandshires Rural District*.—The provision of a filter in connection with the drainage from premises at Cornhill station was a step in the direction of preventing pollution of the river Tweed by sewage from this source.

*Tynemouth Rural District*.—Pollution of the Wallsend burn and its tributaries by sewage from places in this sanitary district. A scheme of sewerage and sewage disposal was devised by the Engineer of the district council for treating and disposing of the sewage from Bigges Main and the work was commenced before the end of the year. The proceedings taken against this district council were adjourned for six months from the February court and a further adjournment was obtained by the district ccuncil, so that the proceedings were in abeyance at the end of the year.

### LOANS.

Loans for sanitary and other public improvements applied for by the Northumberland County Council, and by the undermentioned boroughs, urban and rural district councils, were sanctioned by the Local Government Board during 1908.

| Purpose.  | Period in years.          | Amount.          |
|---|---------------------------|------------------|
| NORTHUMBERLAND COUNTY COUNCIL:—   |                           | £                |
| <i>General County Purposes</i> —  |                           |                  |
| Foundations for certain main roads ... ..   | 20 years                  | 7,000            |
| <i>Several loans for Educational Purposes</i> —   |                           |                  |
| Including purchase of premises, improvements and additions to schools, and furniture for schools ... .. | Varying from 5 to 30 yrs. | Aggregate 35,385 |



| Authority.                           | Purpose.  | Period in years. | Amount. |
|--------------------------------------|---|------------------|---------|
| MUNICIPAL BOROUGHES.                 |   |                  | £       |
| Berwick-on-Tweed ...                 | Street Improvement ...                                      | 5 years          | 630     |
| Wallsend ...                         | Furnishing public elementary school ...                     | 10 „             | 533     |
|                                      | Public walks and pleasure grounds — purchase of land ...    | 60 „             | 2,600   |
|                                      | Public walks and pleasure grounds ...                       | 17 „             | 890     |
| URBAN DISTRICTS.                     |   |                  |         |
| Alnwick ...                          | Burial ground extension                                     | 30 „             | 1,050   |
| Blyth ...                            | Water supply — North and South Wards ..                     | 25 „             | 200     |
|                                      | Public lighting ...   | 10 „             | 399     |
|                                      | Open Spaces Act, 1906..                                     | 15 „             | 100     |
|                                      | Public walks and pleasure grounds ...                       | 20 „             | 100     |
|                                      | Elementary education (Provision of Working Balance Act) ... | 20 „             | 5,000   |
|                                      | Elementary education...                                     | 30 „             | 770     |
|                                      | Do. ...   | 10 „             | 80      |
| Cramlington ...                      | Waterworks ...  | 30 „             | 3,000   |
|                                      | Cemetery (further loan)                                     | 25 „             | 100     |
| Gosforth ...                         | Main drainage works ...                                     | 30 „             | 17,400  |
| Hexham ...                           | Street improvement ...                                      | 25 „             | 780     |
|                                      | Do. ...   | 24 „             | 300     |
|                                      | Do. ...   | 20 „             | 272     |
|                                      | Do. ...   | 60 „             | 489     |
| Rothbury ...                         | Sewage disposal works...                                    | 30 „             | 5,064   |
|                                      | Sprinklers at sewage disposal works ...                     | 15 „             | 150     |
| Whitley and Monk-seaton              | Private street improvement ...                              | 5 „              | 1,500   |
|                                      | Pleasure ground ...   | 30 „             | 1,600   |
|                                      | Fire brigade ...  | 0 „              | 1,200   |
|                                      | Private street improvement ...                              | 5 „              | 500     |
|                                      | Fire brigade ...  | 30 „             | 1,800   |
| URAL DISTRICTS.                      |   |                  |         |
| Bellingham ...                       | Water supply for the town of Bellingham...                  | 30 „             | 1,980   |
| Glendale ...                         | Wooler sewage disposal works...                             | 18 „             | 600     |
| Haltwhistle ...                      | Works of water supply, Haltwhistle North Side ...           | 21 „             | 1,725   |
| (Contributory place of Haltwhistle.) |   |                  |         |
| Hexham (Mickley) ...                 | Sewerage and sewage disposal ...                            | 30 „             | 294     |
| Tynemouth ...                        | Private street improvements ...                             | 6 „              | 280     |
|                                      | Do. ...   | 6 „              | 2,090   |
|                                      | Do. ...   | 6 „              | 2,863   |
|                                      | Do. ...   | 6 „              | 1,200   |

## LOCAL GOVERNMENT BOARD INQUIRIES.

During 1908 I received notice of the following inquiries to be held by Officials of the Board :—

| Date.        | Sanitary District.  | Subject.  | Amount of Loan. |
|--------------|---|---|-----------------|
| 1908.        |   |   | £               |
| Mar. 10th    | Urban district of Gosforth                                    | For sanction to borrow money for works of sewerage and surface water drainage   | 14,601          |
| May 20th..   | Rural district of Hexham (township of Mickley)                | For sanction to borrow money for works of sewerage and sewage disposal for Beaumont Wood and Riding Dene Houses, Mickley  | 294             |
| May 21st..   | Rural district of Bellingham (township of Bellingham)         | For sanction to borrow money for works of water supply for the township of Bellingham   | 1,980           |
| Aug. 25th.   | Rural district of Hexham (township of Corbridge)              | For sanction to borrow money for works of water supply for the township of Corbridge  | 1,200           |
| Oct. 7th ... | Rural district of Hexham (parish of Wylam)                    | For sanction to borrow money for purposes of amended scheme of sewerage and sewage disposal for the township of Wylam (including the execution of certain works in the townships of Heddon-on-the-Wall and Houghton)  | 2,915           |
| Oct. 8th ... | Rural district of Hexham (township of Broomley)               | For sanction to borrow money for purposes of amended scheme of sewerage and sewage disposal for Stocksfield in the township of Broomley   | 1,848           |
| Oct. 16th..  | Borough of Wallsend and the urban district of Willington Quay | Application of the Wallsend and Willington Quay Joint Hospital Board for sanction to borrow money for the extension of the Infectious Diseases Hospital   | Not stated.     |
| Nov. 19th.   | Rural district of Haltwhistle (township of Thirlwall)         | For sanction to borrow money for purposes of water supply for the villages of Gilsland and Longbyre, in the township of Thirlwall ;<br>Also for sanction to borrow money for purposes of sewerage and sewage disposal for the first-mentioned village (including the execution of certain works in the township of Waterhead) | 1,900<br>1,600  |

## BYE-LAWS.

The urban district of Seghill was without bye-laws at the end of 1908.

THE FOLLOWING ARE AMONG THE BYE-LAWS SANCTIONED BY THE LOCAL GOVERNMENT BOARD DURING 1908.

| Name of Authorities.                           | Subjects.  |
|--|--|
| Wallsend Town Council ...                      | Pleasure Grounds.<br>Village Green.<br>Cemetery.   |
| Cramlington Urban District Council             |  |
| Newbiggin-by-the-Sea Urban District Council    | New Streets and Buildings.<br>Slaughter Houses.<br>Prevention of Nuisances and keeping of Animals.<br>Cleansing of Footways, Cesspools, &c.<br>Pleasure Boats. |
| Castle Ward Rural District Council             | Common situated in Township of Kirkheaton.   |
| Norham and Islandshires Rural District Council | New Streets and Buildings.   |

## HOUSING CONDITIONS.

In only seven of the reports of the district medical officers of health is allusion made to insufficiency of houses, or to the unsuitability of houses for human habitation. It is however, well known that in the great majority of districts the scarcity of houses is directly responsible for conditions of overcrowding which are so frequently met with, and also that in most districts there are houses, damp, dark, ill-ventilated, badly lighted, and anything but weather-proof, in fact, totally unfit for human habitation.

In too many instances the medical officer fails to report such houses to the sanitary authority, either because he is of opinion that for a variety of reasons the council will be unwilling to take any action, or lest the temporary closure, during alteration, of such houses, should aggravate existing conditions of overcrowding. Nevertheless, under the Housing of the Working Classes Act, 1890, Sec. 30, it is the medical officer's duty "to represent to the local authority . . . any dwelling-house which appears to him to be in a state so dangerous or injurious to health as to be unfit for human habitation," and by so doing he relieves himself of the responsibility, and places it upon the sanitary authority. Also, when old and dilapidated houses require extensive alterations, it is never necessary to close a number at the same time; if one or two houses were vacated for a short time, say a fortnight, the tenants could return and the adjoining house, or two houses could be similarly dealt with.

## DISINFECTION.

In none of the annual reports are the means available for disinfection mentioned, although this information is specially asked for by the Local Government Board in their memorandum relating to annual reports of medical officers of health. Attention is called to this requirement, as it has probably been overlooked.

The medical officers of health for the borough of Morpeth and for the urban districts of Blyth, Gosforth and Whitley and Monkseaton allude to the necessity of a steam disinfecter being provided.

In ten annual reports it is stated that disinfection of houses was carried out by the sanitary authority after the occurrence of infectious disease, and in five, that schools were disinfected.



The medical officer of one sanitary district recommends that the disinfection of all premises in which notifiable infectious diseases have occurred should, in future, be carried out under the supervision of the sanitary inspector.

Four sanitary authorities possess steam disinfectors, and several had provided Formalin lamps or sprays; four had adopted the routine practice of disinfecting after the death or removal of a Phthisical patient, and in one district the sanitary authority issued printed instructions to householders as to the method of disinfection which should be adapted where cases of Phthisis existed.

#### SCAVENGING.

The systems adopted or their degrees of efficiency were mentioned by twenty-one medical officers of health in their annual reports. In the urban districts of Bedlingtonshire, Blyth (part of), Earsdon, Gosforth, Newbiggin and Weetslade the scavenging was reported to have been done by contractors; in all these districts the work was stated to have been carried out in a more or less unsatisfactory manner and in three instances the council were recommended to substitute scavenging by their own employees. In five other urban districts the work was reported to have been carried out by the sanitary authorities; in two of the latter districts the scavenging was stated to have been satisfactorily performed, and in three instances improvements in certain details were suggested by the medical officer of health.

In comparatively few districts was this undertaken by the sanitary authority. In the majority of districts the work, as before, was let to contractors, or, in rural districts, left to neighbouring farmers. The disadvantages attending both the above systems have been pointed out in previous reports. It is satisfactory to note that in more than one rural district it was again proved, during the year under review, that scavenging can be carried out, not only much more thoroughly, but also more economically, by the local authority than by contractors.

#### WATER SUPPLIES.

The water mains of the Newcastle and Gateshead Water Company were extended in the following localities:—

*Borough of Wallsend.*—Fifty-one yards of additional water mains.

*Blyth Urban District.*—Water mains were extended for a distance of 800 yards and fifty-seven new service pipes were fixed.

*Gosforth Urban District.*—One thousand two hundred and fifty-four yards.

*Newburn Urban District.*—One thousand one hundred and seventy-eight yards.

*Willington Quay Urban District.*—Fifty-one yards.

*Castle Ward Rural District.*—Three thousand six hundred and ninety-seven yards.

*Hexham Rural District.*—Four hundred and thirty-three yards.

*Earsdon Urban District.*—Extensions of water mains were made in several streets and house connections made in many cases.

Improvements to existing supplies or the provision of additional sources of supply were effected in several districts, and are alluded to in the medical officers' annual reports, *i.e.*, the borough of Morpeth, the urban districts of Amble, Ashington, Bedlingtonshire, Blyth, Hexham, Rothbury and Willington Quay, and the rural districts of Alnwick, Belford, Bellingham, Castle Ward, Morpeth, Norham and Islandshires, Rothbury and Tynemouth No. 1.

Owing to insufficiency or the unsuitable nature of the water supplies, improvements were required in the following districts:—The borough of Berwick-on-Tweed (Tweedmouth and Spittal), the borough of Morpeth, the urban districts of Alnwick, Ashington, Blyth (East and West Wards), Bedlingtonshire, Earsdon (Holywell Village), Hexham (Lowgate) and Newbiggin, and the rural districts of Alnwick (Warkworth and several farms and cottages in the vicinity), Castle Ward (Ponteland), Haltwhistle (Thorn-grafton: Row Foot, Featherstone and The Park, Bellister), Hexham (High Mickley, Haydon Bridge, Horsley Barns, Park Shields, and at Field House,

Ebchester), Morpeth (Hartburn, North Middleton, Longhirst and Widdrington Steads), Rothbury (Forest Burn Gate, Hesleyhurst, Sunnyside, Blaydon Burn and Holling Hill) and Tynemouth Rural (New Delaval).

The distribution of water supplies was, in the case of many of the colliery districts, more or less unsatisfactory. The provision of one standpipe or tap for several houses, which is the arrangement most generally adopted, is open to many objections, the chief of which is that when water has to be carried long distances, and especially during the winter months when the roads are frequently in bad condition, a smaller quantity is used than is desirable for health and cleanliness and for the sanitary well-being of the district.

In rural districts the water supplies for a great many houses or collections of houses continued to be most unsatisfactory, the undesirable conditions being for the most part caused by either the water for domestic purposes being derived from shallow surface wells liable to gross pollution from cattle and from manured land, or to the water being at a considerable distance from the houses to be supplied, or by both conditions being present.

#### SEWERAGE AND SEWAGE DISPOSAL.

The following are the chief improvements effected in the year under review:—

*Ashington Urban District.*—Additional facilities for the flushing of sewers were provided in several instances.

*Bedlingtonshire Urban District.*—The sewerage system of the whole district is being gradually remodelled and a considerable amount of work in this connection was carried out during the year. Several defective old sewers and drains were taken up and relaid on modern principles.

*Blyth Urban District.*—The old sewers are gradually being taken up and relaid; more than five hundred yards of new sewers were constructed and over three hundred yards of old sewers were taken up and relaid; seven manholes and eight flushing chambers were built in connection with this work.

*Cramlington Urban District.*—A sewage disposal installation on modern bacterial lines was laid down at Crawhall Lane. The sewage from a population of about six hundred, which was previously discharged into the Horton Burn in an almost crude condition, is now treated by this installation and a great improvement has thus been effected.

*Earsdon Urban District.*—The main outfall sewer, by which all the sewage from this district (with the exception of Bates' Cottages) is conveyed to the sea, was completed.

The sewer for Hartburn Terrace was taken up and re-constructed, three manholes and a flushing tank being fixed.

A new nine inch sewer was laid, at a cost of £61, for the new houses in the vicinity of Bertram Place.

Several ventilating shafts were erected in various parts of the district. Plans were prepared for new sewage disposal works for dealing with the sewage from Bates' Cottages.

*Gosforth Urban District.*—A scheme for the improvement and extension of the sewerage system of the whole district was inaugurated.

*Newburn Urban District.*—Many of the street manholes were sealed up in consequence of complaints as to sewer gas escaping therefrom.

*Rothbury Urban District.*—An enquiry by one of the inspectors of the Local Government Board was held as the result of an application for sanction to borrow money for the carrying out of works of sewerage and sewage disposal. A loan of £5,064 was subsequently sanctioned.

*Seghill Urban District.*—The scheme for treating the sewage for the remaining portion of the village, alluded to in the preceding annual report, was completed. The whole of the sewage from the village of Seghill is now treated on modern lines previous to its being discharged into the Seaton burn.

*Willington Quay Urban District.*—New sewers were constructed in the back streets of the following localities:—Bewicke Street, Armstrong Road, Smeaton Street and Western Road.

*Alnwick Rural District.*—The open ditch used as a sewer and situate alongside the public footpath from Little Mill Station was piped in. Plans were prepared for a new sewerage scheme for Heather Leazes, near Wark-



worth, and application made to the Local Government Board for sanction to borrow the sum of £375 for carrying out the work.

*Castle Ward Rural District.*—Sewage disposal works were erected at Stannington, Blagdon (for the new kennels, dairy, &c.), Gallowhill and Fawdon Old Pit.

At the Cottage Homes, Ponteland, the sewage works were enlarged and re-arranged.

*Glendale Rural District.*—Improvements to the sewage disposal works at Wooler were carried out and the outfall sewer was laid across the bed of the river.

*Haltwhistle Rural District.*—Improvements in the ventilation of sewers were effected by the fixing of additional ventilating shafts.

*Hexham Rural District.*—At Allendale a stone conduit sewer, one hundred and twenty yards in length, was replaced by a sanitary pipe sewer. Works of sewerage and sewage disposal were constructed at Catton Lane Foot.

The sewage from Barrasford was diverted from a watercourse by the construction of a sewer, two hundred yards in length, from Dam's Well to a site near North Tyne where new disposal works were constructed.

At Haydon Bridge the nuisance, caused by the sewage from a considerable number of houses which previously drained to an open ditch, was remedied by the laying of a sewer seven hundred yards in length, along Roman Road, Toft's Bank and Heugh House Lane.

Sewage disposal works were completed at Hedley-on-the-Hill.

Sewerage schemes for Riding Mill and Broomhaugh were submitted to the Local Government Board for approval and works of similar nature for Acomb and Broomhaugh were contemplated.

*Morpeth Rural District.*—The sewerage system at North Seaton Colliery was improved by the construction of two hundred and fifty-seven yards of new sewers and the laying of an iron outfall sewer into the River Wansbeck at low water mark.

A new sewer was also provided at North Seaton Links discharging into newly constructed settling tanks and filter beds. The work of providing a larger and improved sewerage system and facilities for the treatment of the sewage for Pegswood Colliery was commenced.

New drainage and settling tanks were provided for Dyke Nook, Clay House, and Penny Hill; Meldon.

*Norham and Islandshires Rural District.*—The old sewer for Bell's Field, Holy Island, was abolished and a new sewer constructed in its place.

A sewage disposal installation was provided in connection with the drainage from the station premises at Cornhill.

The provision of an improved system of sewerage for Norham, and also for the village of Cornhill, was considered by the Council.

*Tynemouth Rural District No. 1.*—The open sewer at the Avenue, Seaton Delaval, was piped and covered in for a further distance of four hundred yards; ventilating shafts were provided, one at Wheatridge Row, and the other at the west end of Avenue Road, Seaton Delaval.

The manhole surface gratings in close proximity to houses at Wheatridge Row, Astley Terrace, Blyth Street and Avenue Head were permanently closed.

The method of sewage disposal at the following premises were improved, *i.e.*, at Hartford West Farm by the building of a cesspool and provision of a pump by which the liquid may be utilised for manurial purposes, and at Bassington Cottages by the provision of a cesspool and filter bed for treating the sewage previous to its discharge into the Horton Burn. The Seaton Sluice sewer was completed as was also the Hartford sewer extension scheme.

*Tynemouth Rural District No. 2.*—The sewerage system in the Benton district was extended—chiefly, in order to meet the requirements of building developments—by laying five hundred yards of twelve inch sewers and four hundred yards of nine inch sewers, and works of sewerage and sewage disposal for houses at Bigges Main were commenced. An additional Webb Lamp Extractor was fixed near the point where the Killingworth and Palmersville sewers join.



## ISOLATION HOSPITALS

The following sanitary districts had isolation hospital accommodation :—

*Boroughs.*—Berwick-on-Tweed, Morpeth and Wallsend.

*Urban Districts.*—Alnwick, Amble, Ashington, Bedlingtonshire, Blyth, Cramlington, Earsdon, Gosforth, Hexham, Newbiggin-by-the-Sea, Newburn, Rothbury, Seghill, Whitley and Monkseaton, and Willington Quay.

*Rural Districts.*—Alnwick, Belford, Castle Ward, Glendale, Hexham, Morpeth, Norham and Islandshire, Rothbury, Tynemouth No. 1 and Tynemouth No. 2.

The amount of hospital accommodation available for infectious disease was as shown in the subjoined table :—

|  | Popula-<br>tion<br>served. | Number and kind<br>of<br>hospitals provided.    | Diseases to be<br>treated.  | No. of<br>beds<br>provided. |
|--|----------------------------|---|---|-----------------------------|
| JOINT HOSPITAL DISTRICTS.  |                            |   |   |                             |
| <i>Earsdon Joint Hospital Dis-<br/>trict—</i>                              |                            |   |   |                             |
| The urban district of Earsdon ...  | 53,690                     | Two, both iron and wood<br>buildings :—         | Small-pox ...<br>Infectious dis-<br>eases other<br>than Small-<br>pox | 20<br>24                    |
| Do. do. Seghill ...  |                            |   |   |                             |
| Do. do. Whitley and<br>Monkseaton  |                            |   |   |                             |
| The rural district of Tynemouth  |                            |   |   |                             |
| <i>Gosforth, Newburn, and<br/>Castle Ward Joint Hospital<br/>District—</i> |                            |   |   |                             |
| The urban district of Gosforth ...   | 42,934                     | Permanent building ...                          | do. ...   | 32                          |
| Do. do. Newburn ...  |                            |   |   |                             |
| The rural district of Castle Ward  |                            |   |   |                             |
| <i>Wallsend and Willington Quay<br/>Joint Hospital serving—</i>            |                            |   |   |                             |
| The borough of Wallsend ...  | 37,220                     | Do. ...   | do. ...   | 30                          |
| The urban district of Willington<br>Quay ...                               |                            |   |   |                             |
| The urban and rural districts of<br>Alnwick ...                            | 19,540                     | Do. ...   | do. ...   | 12                          |
| Urban district of Rothbury ...   | 6,130                      | Do. ...   | do. ...   | 12                          |
| Rural do. do. ...  |                            |   |   |                             |
| HOSPITALS PROVIDED BY INDIVIDUAL SANITARY AUTHORITIES.                     |                            |   |   |                             |
| Borough of Berwick-on-Tweed ...  | 13,420                     | One temporary hospital                          | Infectious dis-<br>eases other<br>than Small-<br>pox                  | 8                           |
| Do. Morpeth ...  | 6,614                      | Wooden huts ...<br>Permanent building ...       | Small-pox ...<br>Small-pox or<br>other infec-<br>tious diseases       | 8<br>22                     |
| Urban district of Alnwick ...  | 6,800                      | One permanent building                          | Infectious dis-<br>eases other<br>than Small-<br>pox                  | 8                           |
| Do. do. Amble ...  | 6,000                      | Temporary hospital ...                          | Small-pox ...   | 4                           |
| Do. do. Ashington ...  | 20,000                     | One iron building ...<br>Permanent building ... | do.<br>Infectious dis-<br>eases other<br>than Small-<br>pox           | 10<br>24                    |

|   | Popula-<br>tion<br>served. | Number and kind<br>of<br>hospitals provided.  | Diseases to be<br>treated.  | No. of<br>beds<br>provided. |
|---|----------------------------|---|---|-----------------------------|
| <b>HOSPITALS PROVIDED BY INDIVIDUAL SANITARY AUTHORITIES—continued.</b>   |                            |   |   |                             |
| Urban district of Bedlingtonshire   | 24,634                     | One permanent hospital<br>Iron and wood building  | Small-pox ...<br>Infectious diseases other<br>than Small-pox ...                      | 20<br>10                    |
| Do. do. Cramlington ...   | 6,800                      | One iron and wood building  | Small-pox or<br>other infectious diseases   | 12                          |
| Do. do. Gosforth ...  | 15,000                     | Do. ...   | Small-pox ...<br>1 for Small pox<br>1 for Infectious diseases other<br>than Small-pox | 8<br>20                     |
| Urban district of Hexham ...  | 8,500                      | Two iron and wood<br>buildings  |   |                             |
| Do. do. Newbiggin-by-the-Sea ...  | 2,600                      | One wooden hospital ...   | Small-pox ...   | 4                           |
| Do. do. Newburn ...   | 15,747                     | One iron and wood hospital  | do. ...   | 4                           |
| Rural do. Belford ...   | 5,256                      | Do. ...   | do. ...   | 8                           |
| Do. do. Castle Ward ...   | 12,187                     | Wooden hospital ...   | do. ...   | 12                          |
| Do. do. Glendale ...  | 8,777                      | Two cottages ...  | do. ...   | 8                           |
| Do. do. Hexham ...  | 28,077                     | { One iron and wood hospital<br>Do. ...   | do. ...<br>Infectious diseases other<br>than Small-pox                                | 12<br>8                     |
| Do. do. Morpeth ...   | 18,000                     | Do. ...   | Small-pox ...   | 12                          |
| Do. do. Norham and<br>Islandshire ...   | 6,054                      | Do. ...   | do. ...   | 10                          |
| RiverTynePortSanitaryAuthority  |                            | Floating hospital ...   |   | 30                          |
| Do. Blyth do. do. ...   |                            | Permanent building ...  | Small-pox or<br>other infectious diseases   | 24                          |
| <b>SANITARY AUTHORITIES HAVING NO HOSPITAL OF THEIR OWN BUT HAVING MADE ARRANGEMENTS FOR PATIENTS TO BE RECEIVED BY NEIGHBOURING SANITARY AUTHORITIES:—</b> |                            |   |   |                             |
| Urban district of Blyth ...   | 27,481                     | Patients from this district are received into the hospital of the Blyth Port Sanitary Authority |   |                             |
| <b>SANITARY AUTHORITIES WITHOUT ANY HOSPITAL FOR INFECTIOUS DISEASES AND WITH NO ARRANGEMENTS WITH NEIGHBOURING SANITARY AUTHORITIES:—</b>                  |                            |   |   |                             |
| Urban district of Weetslade ...   | 5,453                      |   |   |                             |
| Rural do. Haltwhistle ...   | 9,606                      |   |   |                             |
| Do. do. Bellingham ...  | 6,000                      |   |   |                             |

The number of cases treated in these institutions during the year was 341, distributed as follows:—*Boroughs*—Morpeth, 8; Wallsend, 70. *Urban Districts*—Alnwick, 8; Ashington, 25; Bedlingtonshire, 18;

Blyth, 6; Earsdon, 39; Gosforth, 17; Newburn, 80; Whitley and Monkseaton, 7; Willington Quay, 11. *Rural Districts*—Castle Ward, 13; Hexham, 9; Tynemouth No. 1, 13; Tynemouth No. 2, 17.

The population of the 28 sanitary districts possessing isolation hospitals, or having made arrangements for the use of isolation hospitals provided in neighbouring districts was 341,727 and the number of beds was 414, giving an average of one bed for every 825 persons. The population of the three sanitary districts (the urban district of Weetslade and the rural districts of Bellingham and Haltwhistle) having made no arrangements for the isolation of infectious diseases was 21,059.

#### BACTERIOLOGICAL INVESTIGATIONS.

The number of specimens sent for examination during the year was 1,423, as compared with 1,100 in 1907 and 920 in 1906.

| Months.     | Phthisis. |           |        | Enteric Fever. |           |        | Diphtheria. |           |        | Total Specimens Examined. |           |        |
|-------------|-----------|-----------|--------|----------------|-----------|--------|-------------|-----------|--------|---------------------------|-----------|--------|
|             | Positive. | Negative. | Total. | Positive.      | Negative. | Total. | Positive.   | Negative. | Total. | Positive.                 | Negative. | Total. |
| January     | 9         | 14        | 23     | —              | 3         | 3      | 31          | 46        | 77     | 40                        | 63        | 103    |
| February    | 14        | 23        | 37     | 1              | 1         | 2      | 36          | 34        | 70     | 51                        | 58        | 109    |
| March ...   | 10        | 17        | 27     | 1              | 2         | 3      | 45          | 55        | 100    | 56                        | 74        | 130    |
| April ...   | 12        | 17        | 29     | 2              | 7         | 9      | 30          | 48        | 78     | 44                        | 72        | 116    |
| May ...     | 15        | 22        | 37     | 5              | 4         | 9      | 19          | 27        | 46     | 39                        | 53        | 92     |
| June ...    | 11        | 26        | 37     | 1              | 4         | 5      | 36          | 42        | 78     | 48                        | 72        | 120    |
| July ...    | 16        | 14        | 30     | —              | 3         | 3      | 16          | 32        | 48     | 32                        | 49        | 81     |
| August ...  | 12        | 15        | 27     | 4              | 6         | 10     | 13          | 42        | 55     | 29                        | 63        | 92     |
| September   | 8         | 16        | 24     | 11             | 5         | 16     | 25          | 41        | 66     | 44                        | 62        | 106    |
| October ... | 10        | 17        | 27     | 8              | 11        | 19     | 38          | 34        | 72     | 56                        | 62        | 118    |
| November    | 14        | 17        | 31     | 4              | 7         | 11     | 89          | 43        | 132    | 107                       | 67        | 174    |
| December    | 9         | 12        | 21     | —              | 7         | 7      | 85          | 69        | 154    | 94                        | 88        | 182    |
| Totals ...  | 140       | 210       | 350    | 37             | 60        | 97     | 463         | 513       | 976    | 640                       | 783       | 1423   |

Greatly increased use of the facilities provided by the county council for bacteriological examination in cases of suspected Phthisis, Diphtheria and Enteric Fever was made, and a few district councils provided anti-toxin for the treatment of patients suffering from Diphtheria. Many medical officers of health testified to the great assistance they had received from the above-named facilities.

Specimens from suspected cases of one or more of the above diseases were received, during the year, from every sanitary district in the administrative county.

One hundred and thirty-four medical practitioners availed themselves of the facilities provided for the examination of specimens bacteriologically.



## PORT SANITARY AUTHORITIES.

## THE RIVER BLYTH PORT.

Medical Officer of Health, JOHN CROMIE, L.R.C.P., L.R.C.S. (Edin.)

*Inspection of Vessels.*—During the year the following vessels were inspected:—

|                         |     |     |     |     |       |
|-------------------------|-----|-----|-----|-----|-------|
| British steamships      | ... | ... | ... | ... | 676   |
| British sailing vessels | ... | ... | ... | ... | 64    |
| Foreign steamships      | ... | ... | ... | ... | 1,922 |
| Foreign sailing vessels | ... | ... | ... | ... | 79    |
| Total number of visits  |     |     |     |     | 2,741 |

Of the above vessels 1,141 arrived from British home ports, and 1,600 came from foreign ports.

In addition to the vessels above mentioned, 516 fishing boats discharged their cargoes. Of these, 453 were British and 63 were foreign boats. The additional duties conferred upon port sanitary authorities by the Public Health (Regulations as to Foods) Act, 1907, and the Regulations made thereunder received the attention of the port authority and, although no foods were imported, all the necessary forms, &c., were prepared in order that prompt action could be taken should the necessity arise.

Thirty cases of sickness occurring on board were reported and visited by the Medical Officer. These included seven patients suffering from Enteric fever and one from Diphtheria, all of whom were removed to the Port Sanitary Hospital. The remaining cases were not of an infectious nature.

In twenty-six instances structural defects were found by the Port Sanitary Inspector, and in two hundred and twenty cases the conditions as to cleanliness were not satisfactory; all the above defects, structural and sanitary, were remedied before the respective vessels left the harbour. In ten cases the drinking water on board was found to be unfit for use.

## RIVER TYNE PORT.

Medical Officer of Health, W. EDMUND HARKER, M.D., D.Hy.

*Inspection of Vessels.*

|            | Number of Vessels Arriving. |     |        |     | Number Inspected. |
|------------|-----------------------------|-----|--------|-----|-------------------|
| Foreign    | ...                         | ... | 1,963  | ... | 1,947             |
| Home Trade | ...                         | ... | 4,738  | ... | 4,520             |
| Coastwise  | ...                         | ... | 7,621  | ... | 4,136             |
| Total      | ...                         | ... | 14,322 | ... | 10,603            |

The water boats, eighteen in number, and gangways, were examined as usual, and the tanks of the former found to be in a good condition.

Of the 10,603 inspections made, 6,331 were inspections of British steamers, sailing vessels and fishing vessels, and the remaining 4,272 were inspections of foreign steamers, &c.

Nine thousand four hundred and twenty-six of the vessels inspected were found to be in a good sanitary condition; in 845 structural defects were found, and 332 were in a dirty condition.

As regards 91 ships arriving from Cholera infected ports (or ports suspected to be infected) the water tanks were suitably dealt with by the Inspectors acting under the supervision of the Medical Officer of Health, and the drinking water was changed. Thirty-two vessels and several lots of clothing and bedding were disinfected; also fourteen lots of filthy infected clothing and five hundred and fourteen old beds were burnt.

*Visits by Medical Officer on account of reported or suspected illness on board.*—Fifty-eight vessels were boarded by the Medical Officer of Health under the above-named conditions, and a table, describing in detail the action taken in each case, was included in the annual report.

*Vessels arriving from Infected and Suspected Ports.*—Nine hundred and thirty-eight vessels were specially inspected by the officers of the Port Sanitary Authority on account of their having come directly, or indirectly, from foreign ports infected or suspected to be infected with Cholera, Yellow fever, Plague or Small-pox, an increase of one hundred and six over the number inspected during the previous year.

Seven hundred and sixty-one cases of sickness were either reported by masters of vessels as having occurred during the voyage, or came under the notice of the port officials during the year. This total included, among other items:—Small-pox, 1; Scarlet fever, 1; Enteric fever, 31; Malarial fever, 121; Diarrhœa or Choleraic Diarrhœa, 21; Dysentery, 14; suspected Plague, 1; Beri-Beri, 21; Diphtheria, 2; Accidents, 159, and Cholera, 2. No case of Cholera or Plague occurred in the Port during the year under review.

*Floating Hospital.*—Thirty-two cases were removed to the Isolation Hospital as follows:—Enteric fever, 12; suspected Enteric fever, 5; Beri-Beri, 9; Malarial fever, 3; Small-pox, Diphtheria, and Dysentery 1 each.

*Emigrants.*—The number of emigrants passing through the Tyne Port during the year 1908, so far as is known, was as follows:—

|                |                 |                  |           |           |     | Number of<br>Emigrants. |
|----------------|-----------------|------------------|-----------|-----------|-----|-------------------------|
| For America by | White Star Line | from             | Liverpool | ...       | ... | 820                     |
| „              | „               | Cunard Line      | „         | „         | ... | 1,514                   |
| „              | „               | American Line    | „         | „         | ... | 122                     |
| „              | „               | Allan Line       | „         | „         | ... | 191                     |
| „              | „               | Anchor Line      | from      | Glasgow   | ... | 171                     |
| „              | „               | Dominion Line    | from      | Liverpool | ... | 19                      |
| „              | „               | Canadian Pacific | „         | „         | ... | 584                     |
|                |                 |                  |           |           |     | <hr/> 3,421 <hr/>       |

being an decrease of 1,067 as compared with the previous year.

*General Sanitary Work.*—In addition to the 10,603 visits of inspection, copies of Regulations were posted on all gangways and delivered on board the vessels in the port; five notices were served requiring the abatement of smoke nuisances; all passenger steamers were inspected and examined on arrival; 53 fishing boats, out of a total of 13,899, were found on arrival in the port to be in a foul condition, and these were cleansed and deodorized after notice from the Port Sanitary Inspector; 32 cattle ships were cleansed by order and under the supervision of the Sanitary Inspector.

*Inspection of Imported Foods.*—The Regulations of the Local Government Board, made under the provisions of the Public Health (Regulations as to Foods) Act, 1907, imposed a considerable amount of additional work on the Port Sanitary Officials. Since October 1st, 1908, when the first set of Regulations came into force, all consignments of foreign meat and other foods have been systematically inspected.

It is pleasing to note that “the importers gave every facility to the Medical Officer and Sanitary Inspector in the inspection of imported food stuffs and readily consented to the destruction of quantities condemned as unfit for food.”

The total importation of foreign meat from Argentina during 1908 was as follows:—Beef, 63,641 quarters; Mutton, 109,132 carcasses; Beef sundries, 8,450 cases (and bags); Mutton sundries, 1,282 cases.

During the last three months of the year, when the Food Regulations were in force, the following quantities were condemned and destroyed, in accordance with the orders of the Medical Officer of Health:—Carcasses of Mutton, 83; Boned Beef, 20 bags; Neck Beef, 14 bags; Ox Tails, 7 bags; Skirts, 6 bags; Sheep's Kidneys, 4 bags; Sheep's Hearts, 3 bags; Ox Cheeks, 2 bags.

The Danish steamers, which arrive weekly with consignments of bacon, were regularly inspected, as also were the Norwegian boats, which arrive three times weekly with consignments of fresh fish.

#### RIVER TWEED PORT.

Medical Officer of Health, D. HEAGERTY, L.R.C.P., L.R.C.S., L.M.

The sanitary authority of the borough of Berwick-on-Tweed constitutes the River Tweed Port Sanitary Authority. The Medical Officer of Health reports that twenty-nine ships from foreign ports were inspected, of which four were from the Baltic; all were found free from disease.



## BOROUGHES.

## BERWICK-UPON-TWEED.

Medical Officer of Health, D. HEAGERTY, L.R.C.P., L.R.C.S., L.M.

Area, 6,396 acres; estimated population, 13,420; birth rate, 23.02; general death rate, \*16.91; zymotic death rate, 1.56; infant mortality rate (per 1,000 births), 139.15; Phthisis death rate, 1.63; death rate from respiratory diseases, 1.71.

When compared with the rates for the preceding year, the birth rate and general death rate show decreases of 1.94 and 0.74 respectively; the remaining rates have increased as follows:—Zymotic death rate, 0.15; infant mortality rate, 19.75; Phthisis death rate, 0.67 and respiratory death rate, 0.75.

Three hundred and nine births were registered during the year, and two hundred and twenty-seven deaths; of the latter forty-three were of children under one year, and seventy-five of persons sixty-five years and upwards.

Eighty-five cases of infectious disease were notified as follows:—Diphtheria and Membranous croup, 44; Scarlet fever, 24; Erysipelas, 12; Enteric fever, 5.

Twenty-one deaths occurred from zymotic disease, viz.:—Diarrhœa, 10; Whooping cough, 4; Diphtheria and Membranous croup, 3; Measles, 2 and Scarlet fever and Enteric fever, 1 each.

Phthisis caused 22 deaths; respiratory diseases, 23; heart diseases, 20; accidents, 3 and premature birth, 6.

The Phthisis death rate was the third highest recorded in the administrative county, and the birth rate was the third lowest in urban districts.

The following table indicates that the general death rate was practically the same in Spittal and Tweedmouth, and very much higher in both these sub-districts than in Berwick. Considerably the highest infant mortality rate was also recorded in Spittal, where the attack rate from infectious disease was also the highest. The death rate from zymotic disease was highest in Tweedmouth and lowest in Spittal:—

| Sub-districts. | Popu-<br>lation. | Births.      |                           | Deaths.      |                           | Infant<br>deaths. |                              | Zymotic<br>deaths. |                           | Infectious<br>diseases. |                                  |
|----------------|------------------|--------------|---------------------------|--------------|---------------------------|-------------------|------------------------------|--------------------|---------------------------|-------------------------|----------------------------------|
|                |                  | Num-<br>ber. | Rate<br>per 1,000<br>pop. | Num-<br>ber. | Rate<br>per 1,000<br>pop. | Num-<br>ber.      | Rate<br>per 1,000<br>births. | Num-<br>ber.       | Rate<br>per 1,000<br>pop. | Num-<br>ber.            | Attack<br>rate per<br>1,000 pop. |
| Berwick ...    | 8,270            | 194          | 23.4                      | 124          | 15.1                      | 24                | 124.2                        | 13                 | 1.57                      | 44                      | 5.3                              |
| Tweedmouth     | 3,080            | 69           | 22.4                      | 59           | 19.1                      | 11                | 159.4                        | 5                  | 1.62                      | 23                      | 7.4                              |
| Spittal ...    | 2,070            | 46           | 22.2                      | 40           | 19.3                      | 8                 | 173.9                        | 3                  | 1.44                      | 18                      | 8.6                              |
| Whole district | 13,420           | 309          | 23.02                     | 223          | 16.91                     | 43                | 139.15                       | 21                 | 1.56                      | 85                      | 6.33                             |

When on the subject of Diphtheria, cases of which disease were notified during ten months of the year, the medical officer points out that the unsatisfactory conditions existing at Spittal and Tweedmouth (bad drainage, want of proper water supply, and insanitary surroundings) probably contributed to the prevalence of the disease.

*Common Lodging Houses.*—There are five common lodging houses in the borough, and the report states that they were all kept in good order. The fact of nearly nine hundred visits of inspection having been paid by the sanitary inspector, in addition to quarterly visits to each by the medical officer, is evidence of adequate supervision and of the enormous amount of extra work devolving upon the above-named officials owing to the existence of these houses in the borough.

*Dairies and Cowsheds.*—The number on the register is not stated in the report. One new dairy was opened; all were inspected by the medical officer and inspector, and all were reported to be cemented and drained.

A case of Diphtheria occurred in the house of one cowkeeper; the milk vessels were all removed to adjoining cottages and all communication between the milk supply and the infected house was cut off. The patient was prohibited from attending to the business until bacteriological proof of his freedom from infection was established.

*Slaughter Houses.*—These premises were periodically inspected by both the medical officer and the sanitary inspector, but the total number of premises on the register is not given. The report states that these premises were kept in a very satisfactory state.

*Factories and Workshops.*—These are included in the same register, one hundred and fifty premises being thus accounted for. The total number of inspections made is not given. In four instances notice to limewash was given, and in one case the provision of a suitable sanitary convenience was procured.

*Improvements.*—Three pail closets were replaced by w.c.'s. Considerable attention was paid to the cleansing of houses, etc., occupied by sufferers from Phthisis. More than fifty rooms in which infectious disease had occurred were disinfected under the supervision of the sanitary inspector. A great number of notices relating to the abatement of nuisances were sent out. The Sanitary Authority decided, during the year, to erect a mortuary for the whole district.

*Requirements.*—The most urgent of these is the provision for Tweedmouth and Spittal of an increased water supply and of an adequate sewerage and drainage system, for want of which, Tweedmouth in particular has, for many years, been in a dangerously insanitary condition.

The Authority is perfectly aware of the nuisances and danger to health arising from the filthy pail closets and ash middens which the medical officer thus describes in his annual report for 1908:—"The very best of them are bad, and cannot be improved so long as the present system obtains. It is my opinion, as Medical Officer of Health, that each and every one of these pail closets and ash middens is a nuisance to the locality and injurious to the health of the persons who are compelled to use them. It makes no matter how the scavengers endeavour to keep them, the stench is intolerable and constant and poisons the air in their immediate vicinity. . . . There are middens between Nos. 130 and 166, Main Street used by 16 families, comprising 166 persons, which are so very objectionable that the owners ought to receive their notices immediately. So long as these insanitary places are to be found in Spittal, I cannot say it is in a sanitary state, and the sooner they are done away with the better will it be for this village, if they ever want to boom it as a health resort."

"Tweedmouth is not drained and is, therefore, worse than Spittal with regard to its pail closets and ash middens, and I am sorry to have to state that, at their last quarterly meeting, the Authority rescinded the application to the Local Government Board for borrowing powers for a supply of water to the inhabitants, so that now this town, which, for the last twenty years, has been asking for a supply of water, seems to be as far away as ever from it."



"From the new houses called Shielfield Terrace, an open gutter has its source and carries all its filthy night soil down Main Street to Church Street and from thence, by way of an underground drain, to the Tweed. It is the offensive odours disseminated during its flow down the open gutter which the inhabitants are constantly complaining of, and it is in this locality that I have noticed for the last couple of years that Diphtheria is found, and, indeed, while I am penning this report, there are three cases in the very lay of this open drain."

The provision of a modern covered-in sewer for the above-named houses is a matter of extreme urgency.

The Sanitary Authority excuses the above-mentioned conditions because of the insufficient water supply and, as regards procuring a remedy for the last-mentioned condition, the weary wrangle in the council goes on year by year, some members being of opinion that it is the duty of the Sanitary Authority to supply the whole of the houses within its area with a reliable supply of water, sufficient for domestic and flushing purposes, while others are of opinion that Tweedmouth and Spittal should utilise the abundant water supply which is supposed to exist on the spot, but the whereabouts of which neither committees nor individuals can locate. No mention is made, in the medical officer's report of any means having been adopted for supplying Tweedmouth and Spittal with water, notwithstanding the many schemes that have been prepared and considered from time to time.

Additional housing accommodation is required, particularly for the working classes, and improved housing conditions are much needed, especially as regards tenement property and houses with one room only and also houses greatly deficient in means for obtaining adequate ventilation. There is no mention, in the medical officer's report, of any improvement in housing accommodation having been effected.

Allusion has already been made to the undrained condition of Tweedmouth and to the intolerable nuisances which result therefrom.

Many of the back yards in Spittal, though drained, are still unconnected to the main sewers.

The necessity for abolishing the many insanitary pail closets and privy middens in Tweedmouth and Spittal and for substituting water closets is again, as in previous annual reports, urged by the medical officer as an absolutely necessary measure. Several instances are given, notably in West Street, Middle Street, and Main Street of the deplorable and, from a health point of view, dangerous condition of some of the structures alluded to.

Increased hospital accommodation for the treatment of infectious diseases.

The provision of a public mortuary for the whole district.

\* 16·54 if the deaths of eight non-residents which occurred in the district are deducted, and the deaths of four residents which occurred outside the district are added.

#### MORPETH.

Medical Officer of Health, H. DICKIE, M.A., M.D.

Area, 328 acres; estimated population, 6.614; birth rate, 31.14; general death rate, \*23.38; zymotic death rate, 2.11; infant mortality rate (per 1,000 births), 228.15; Phthisis death rate, 1.05; death rate from respiratory diseases, 3.17.

With the exception that the Phthisis death rate has decreased by 0.47, all of the above rates show an increase, when compared with the preceding year, as follows:—Birth rate, 1.76; general death rate, 6.79; zymotic death rate, 1.50; infantile mortality rate, 113.57; respiratory death rate, 1.8.

Two hundred and six births were registered during the year, and one hundred and fifty-four deaths; of the latter forty-seven were of children under one year, and forty-two of persons sixty-five years and upwards.



Nineteen cases of infectious diseases were notified as follows:—Enteric fever, 17; Diphtheria and Membranous croup, 2.

Fourteen deaths occurred from zymotic disease, viz.:—Diarrhœa, 10; Enteric fever, 2; Whooping cough, 2.

Phthisis caused 7 deaths; respiratory diseases, 21; heart diseases, 10; premature birth, 10.

The general death rate and also the infant mortality rate for this district were the highest recorded in the administrative county during the year under consideration, and the death rate from respiratory diseases was the second highest.

Commenting on the above rates, the medical officer remarks:—“In 1907 “I was able to congratulate you on the lowest nett death rate and the “lowest infantile mortality rate on record in recent years; in 1908 we “have gone to the opposite extreme in both categories.” After pointing out that, during the year under review, almost every fourth child born, died within the year, and that a portion of these deaths was attributable to epidemic Diarrhœa or allied complaints, the report continues, “The “causes of epidemic Diarrhœa have been referred to in all previous “reports; the climatic conditions predisposing to it cannot be altered, “but the existing causes, careless feeding, unsuitable and unnatural “foods, and want of cleanliness still remain. More direct instruction of “the young mothers, either in their earlier life at school or more parti- “cularly by district nurses and the like, the provision of sterilized pure “milk, and so forth, are remedies usually suggested. The adoption of “the Act of Parliament requiring the early notification of births would, “of course, (but only if properly supplemented by the appointment of a “nurse or nurses) be of service.”

For the second year in succession, the borough was entirely free from Scarlet fever; the cases of Measles and Whooping cough were very few and only two cases of Diphtheria were notified. As regards the outbreak of Enteric fever, the medical officer is of opinion that nearly all the cases “were easily traceable to a doubtful case in the centre of the town “which this authority was prevented from removing to the isolation “hospital. The cases which followed were either in the immediate “neighbourhood of this focus or in houses east and north of it (*i.e.*, in “the track of the prevailing wind). This peculiar incidence of the cases “strengthened the opinion strongly formed from local observation, that “the infection was fly-conveyed. The epidemic, if it could be called “such, quickly disappeared with the flies on the onset of colder “weather.”

The disinfection of sixteen houses, owing to outbreaks of infectious disease, was carried out under the supervision of the sanitary inspector.

*Factories and Workshops.*—At the end of the year twenty-five factories and a similar number of workshops were on the register. Twenty-eight factory inspections were made, four defects being found and remedied. Two lists of out-workers were received, containing the names of five out-workers engaged in the making of wearing apparel; the premises occupied by out-workers were visited and found to be satisfactory.

*Dairies and Cowsheds.*—The number on the register and the total number of inspections were not stated. In one case a new byre was erected and some of the older byres were improved. In two cases where the method adopted for storing manure was unsatisfactory, preliminary steps were taken for remedying the same.

*Common Lodging Houses.*—The numbers on the register, the total inspections made, and the defects found were not stated in the report. The houses were frequently inspected and generally found in good order.

*Improvements.*—Housing, etc.—About twenty new houses were erected during the year, in addition to which, extensions and alterations were carried out in several properties. The houses at Horsley Cottages were improved by the addition of a storey. Plans were submitted and

approved for the erection, by the council, of ten cottages and ten flats at West Green. A scheme for the demolition of certain properties in congested areas of the town was accepted by the council and steps were taken for carrying out the suggestions of a committee formed for the purpose. "The scheme," remarks the medical officer, "is not a complete one from a high sanitary point of view, and may be regarded merely as a long step in the right direction. The present scheme does not, by any means, include all the areas which require consideration, though it certainly deals with the worst." Several yards were greatly improved by being paved, and the council were recommended to continue their policy of requiring owners to pave the yards of all property which is still to be used for human habitation. Extensive repairs to main roads and highways were carried out, some private streets were made up, and several lengths of flagged footpaths were removed or repaired.

**Water Supply.**—The council are to be congratulated on the fact that during the present year, for the first time for some years past, a constant service of water has been available, as it was never found necessary to turn off the water at any time. Although a constant supply was maintained and the rainfall recorded for the year was less (22 inches as against 25 inches for the year 1907) the amount in the storage reservoirs never fell below a six days' supply. This beneficial result has been made possible by the provision of an electrical pump, by means of which the water used for market cleansing and street watering purposes has been raised from the river and a saving of one and a half million gallons per annum of the town water effected.

**Sewerage and Draining.**—The sewage disposal works continued to give perfect satisfaction. The approximate amount of sewage treated was eight million gallons, and the cost of pumping, exclusive of attendance and repairs, was £123. The effluent is stated to have been uniformly good, and no complaints with regard to the works were received. Notices were served in two cases where drains were found to be discharging into streams, and handbills were distributed in some parts of the town cautioning the public against the practice of throwing refuse into the river. New drains were laid and inspected for fifteen separate properties, and several notices relating to nuisances arising from defective or obstructed drains were served.

**Refuse Disposal.**—In eighteen cases notices were served requiring the provision of water closets and these improvements were carried out, the greater number being in lieu of objectionable privies. Notices were also served in thirty-seven cases where the ashpit accommodation was insufficient. An improved system of scavenging (under which all the "boxes" were emptied twice a week) was adopted at the commencement of the year with satisfactory results.

**Requirements.**—There continued to be a considerable demand for houses for the miners, etc., and also for the least well off of the working classes, as was shown by the numerous applications for, and continued occupation of, the inferior tenement property and houses situate in the different yards.

The gradual reduction of the many examples of slum property in various situations in the borough.

The adoption of the water carriage system of drainage for all new houses and the substitution of water closets for the objectionable privies connected with much of the old property.

An improved system of refuse disposal, probably by the installation of a modern refuse destructor.

The provision of a steam disinfecter, without which it is impossible to efficiently disinfect many of the bulky articles which have been used in connection with infectious disease.

\* 21.16 if the deaths of fifteen non-residents occurring within the district be deducted, and the death of one resident which occurred without the district be added.



## WALLSEND.

Medical Officer of Health, T. WILSON, L.R.C.P., M.R.C.S.

Area, 1,158 acres; estimated population, 28,000; birth rate, 35.46; general death rate, \*11.42; zymotic death rate, 0.85; infant mortality rate (per 1,000 births), 113.79; Phthisis death rate, 0.78; death rate from respiratory diseases, 1.75.

When the above rates are compared with the corresponding rates of the preceding year, a decrease is shown in each case, as follows:—Birth rate, 1.07; general death rate, 1.67; zymotic death rate, 0.72; infant mortality rate, 9.36; Phthisis death rate, 0.33; respiratory death rate, 0.17.

Nine hundred and ninety-three births were registered during the year and three hundred and twenty deaths; of the latter one hundred and thirteen were of children under one year, and fifty-one of persons sixty-five years and upwards.

One hundred and sixty-one cases of infectious disease were notified as follows:—Diphtheria and Membranous croup, 80; Scarlet fever, 64; Enteric fever, 10; Erysipelas, 7.

Ten infants were found to be suffering from Ophthalmia.

Twenty-four deaths occurred from zymotic disease, viz.:—Diarrhœa, 12; Measles, 4; Whooping cough, 4; Diphtheria and Membranous croup, 3 and Enteric fever, 1.

Phthisis caused 22 deaths; respiratory diseases, 49; heart diseases, 16; accidents, 14; premature birth, 16.

The following table gives, for the several sub-divisions, the population, the birth and the various mortality rates, the cases of infectious disease notified and the attack rate per 1,000 population of the latter:—

| Sub-districts.     | Popu-<br>lation. | Births. |                          | Deaths. |                          | Infant<br>deaths. |                             | Zymotic<br>deaths. |                          | Infectious<br>disease. |                                  |
|--------------------|------------------|---------|--------------------------|---------|--------------------------|-------------------|-----------------------------|--------------------|--------------------------|------------------------|----------------------------------|
|                    |                  | No.     | Rate<br>per 1000<br>pop. | No.     | Rate<br>per 1000<br>pop. | No.               | Rate<br>per 1000<br>births. | No.                | Rate<br>per 1000<br>pop. | No.<br>notified.       | Attack<br>rate per<br>1000<br>p. |
| Northumberland ... | 2,700            | 111     | 41.11                    | 41      | 15.18                    | 18                | 162.16                      | 2                  | 0.74                     | 10                     | 3.7                              |
| Wallsend ...       | 3,800            | 168     | 44.21                    | 53      | 13.94                    | 20                | 119.04                      | 1                  | 0.26                     | 16                     | 4.2                              |
| Carville ...       | 3,500            | 123     | 35.14                    | 56      | 16.00                    | 19                | 154.47                      | 6                  | 1.71                     | 44                     | 12.5                             |
| Buddle ...         | 3,800            | 177     | 46.58                    | 35      | 9.21                     | 13                | 73.44                       | 4                  | 1.05                     | 14                     | 3.6                              |
| Holy Cross ...     | 12,200           | 349     | 28.60                    | 122     | 10.00                    | 38                | 108.88                      | 9                  | 0.73                     | 60                     | 4.9                              |
| Hadrian ...        | 2,000            | 65      | 32.5                     | 34      | 17.00                    | 5                 | 76.92                       | 2                  | 1.00                     | 17                     | 8.5                              |
| Whole district ... | 28,009           | 993     | 35.46                    | 341     | 12.17                    | 113               | 113.79                      | 24                 | 0.85                     | 161                    | 5.7                              |

The birth rate was remarkably high; in only one sub-division was it under 30 per 1,000, and in three the rate exceeded 40 per 1,000 population. In the Buddle and Holy Cross divisions the general death rate did not exceed 10 per 1,000; in the Northumberland, Wallsend and Carville sub-districts, the rate was 16 per 1,000 or under, and in only one locality (Hadrian) did the general death rate exceed 16 per 1,000.

A most satisfactory feature in the report is the continued decrease in the rate of infantile mortality, especially during a year in which an increased infantile mortality rate is recorded in nearly all parts of the country. Two factors mentioned in the report have undoubtedly exerted a beneficial influence in this direction,—(1) the adoption of the Notification of Births Act 1907 and the assistance given by the health visitor who conferred with 87 per cent. of the mothers recently confined, and (2) the fact that in 98 per cent. of the cases visited the babies



were being breast fed. Ten children were found to be suffering from Ophthalmia and, in each case, an uncertificated midwife had been in attendance. The infant mortality rate was lowest (73.44) in Buddle and Hadrian (76.92), and highest in Northumberland (162.16) and Carville (154.47). In the Wallsend and Holy Cross sub-divisions the rate was under 120 per 1,000 births.

Forty-three per cent. of the cases of infectious disease notified were removed to and treated at the Isolation Hospital, though the medical officer expresses his regret that, in many instances, the mothers of children allow their parental feelings to outrun their judgment and refuse their sanction to such a desirable procedure. "The objection is purely sentimental, especially in children; after the first twenty-four hours in hospital they are all happy and good. Of the seventy cases treated in hospital, only one death occurred, which ought to convince parents that they have been well attended to."

*Factories and Workshops.*—Thirty-nine workshops were on the register at the close of the year. Eighty inspections were made of these, and twenty-one of the factories. Contraventions of the Act were met with in three instances, all of which were remedied.

*Dairies and Cowsheds.*—The number on the register is not stated in the report, though all were inspected and are reported "to have been kept in good order and to be, on the whole, satisfactory." In two cases improvements were found to be necessary and were subsequently effected.

*Slaughter Houses.*—The number registered or licensed is not stated. They were all visited by both the medical officer and inspector. In two cases carcasses of animals affected with Tuberculosis were condemned and destroyed, and in one of these the owner of the carcass was prosecuted and fined. It is satisfactory to learn that the utility of erecting a public abattoir is being discussed by the Sanitary Committee.

*Common Lodging Houses.*—The number of these premises on the register is not stated and, with the exception that in four cases lime-washing notices were served, no allusion is made to them in the report.

*Improvements.*—Seventy-nine new houses were erected during the year and, owing to the general industrial depression which existed, the housing accommodation of the district more than fulfilled requirements.

The various wards of the district were systematically inspected by the medical officer and sanitary inspector, and the various conditions requiring amendment thus brought to light were the subject of two hundred and seventy-seven informal notices. These are set out in detail in the inspector's report which is appended, the following being amongst the matters enumerated:—Improvements to drainage, 36; abatement of overcrowding, 13; abolition of insanitary ashpits, 20; limewashing of houses, passages or staircases, 44; yard surfaces repaired, 19; defective roofs and spouting, 13; various other dilapidations in houses, 30.

The Newcastle and Gateshead Water Company extended their mains in this district to the extent of about fifty yards during the year.

In only thirty-five cases was the service of statutory notices required in order to remedy the matters complained of. In eighty-two cases new drains were constructed and inspected.

The abolition of privy ashpits was further advanced during the year and, as regards the two hundred and twenty-four still remaining, the owners have received notice to abolish them in thirty-four instances.

Since the Public Health Acts Amendment Act 1907 was adopted, new houses are being provided with water closets and the gradual adoption of Dr. Quinn's ashbins, in lieu of ash-closets has resulted in greatly improved sanitary conditions and, as regards scavenging, has proved an advantage, economically.

The medical officer is also of opinion that the influx of an increased

amount of clean water, which accompanies the flushing of the water closets will have a beneficial effect upon the sewers and, in some measure, obviate the bad smells which have been emitted from the latter in some localities.

One hundred and sixty-one houses were disinfected during the year; disinfection is carried out after all cases of Phthisis.

By the adoption of Part II. (part of) and the whole of Parts III., IV., and V., of the Public Health Acts Amendment Act 1907, the council have obtained important additional powers for dealing with, under Part II., streets and buildings, the paving of yards, the regulation of temporary buildings, etc.; under Part III., for controlling various sanitary matters, such as nuisances not previously defined by the Public Health Act, the conversion of privies and pail closets to the water closet system and the power to compensate owners in certain cases, the testing of drains the provision of public lavatories the provision of sinks for all houses not previously supplied with them, and for dealing with offensive or noxious trades; under Part IV., for dealing with infectious diseases and the measures necessary for their prevention, such as increased powers of control over dairymen, infected and filthy articles of clothing, over school attendance of children from infected houses, the cleansing and disinfection of premises, the provision of nurses for attendance on patients suffering from infectious disease; under Part V., the council obtain increased powers over the registration and better management of common lodging houses, the provision of suitable and sufficient sanitary accommodation therein, and for dealing with the keepers of unregistered houses.

The Notification of Births Act, 1907, was adopted.

*Requirements.*—Improvements in the flushing and ventilation of several of the sewers is desirable, as is evidenced by the number of complaints received, during the year, of the emanation of bad smells from them.

The continued efforts of the council and its officials with a view to the further reduction of the two hundred and twenty-four privy ashpits still remaining and the substitution of water closets and dry ashbins for those abolished.

Increased hospital accommodation in order to successfully cope with any outbreak of infectious disease that may arise.

The provision of a public abattoir as, in this way only, can the efficient inspection of meat, intended for human consumption be assured.

\* 12·17 if the deaths of twenty-one residents occurring outside the district be added.



## URBAN DISTRICTS.

### ALNWICK.

Medical Officer of Health, R. B. ROBSON, M.B., M.R.C.S.

Area, 4,777 acres; estimated population, 6,800; birth rate, 27.05; general death rate, \*19.70; zymotic death rate, 1.02; infant mortality rate (per 1,000 births), 114.13; Phthisis death rate, 2.20; death rate from respiratory diseases, 1.76.

With the exception of the infant mortality rate which has decreased by 26.22, each of the above rates shows an increase, when compared with those for the preceding year, as follows:—Birth rate increase, 1.91; general death rate, 2.2; zymotic death rate, 0.88; Phthisis death rate, 0.88; respiratory death rate, 0.29.

One hundred and eighty-four births were registered during the year and one hundred and thirty-four deaths; of the latter twenty-one were of children under one year, and forty of persons sixty-five years and upwards.

Nineteen cases of infectious disease were notified as follows:—Diphtheria and Membranous croup, 13; Scarlet fever, 5 and Erysipelas, 1.

Seven deaths occurred from zymotic disease, viz.:—Whooping cough, 4; Diphtheria and Membranous croup, 2 and Diarrhœa, 1.

Phthisis caused 15 deaths; respiratory diseases, 12; heart diseases, 14; accidents, 5; premature birth, 3.

The Phthisis death rate was the highest recorded in any district in the administrative county in the year under consideration.

In alluding to the increased mortality from Phthisis, the medical officer remarks as follows:—"While reserving my opinion as to the ultimate benefits that accrue to consumptive patients at sanatoria and other kindred institutions, I would direct the attention of the council to the fact that such are becoming more generally recognised, and, in view of this, the question of the early notification and treatment of Phthisis is of importance, as it is mainly in its first stages that any improvement is really to be looked for."

The value of the bacteriological examinations, carried out at the expense of the County Council, as an aid to diagnosis of Diphtheria is alluded to in appreciative terms.

An unusual number of cases of Diarrhœa occurred during the autumn, and the medical officer calls attention to the fact that the disease was not confined to infants of the poorer classes, as is usually the case in ordinary summer Diarrhœa, but the persons affected were of all ages and classes; for this reason he inclined to the opinion that the water supply was to blame, and subsequent analysis of the water confirmed this opinion.

*Factory and Workshop Act.*—Fifty-five workshops, including three bakehouses, appear on the register. Eleven contraventions of the Act were met with, all of which were remedied during the year.

*Improvements.*—Eleven houses were erected and occupied during the year, and four others were in course of erection.

A loan for the erection of the remainder of the houses on the land belonging to the council has been granted.

The report of the sanitary inspector, which was appended, indicates that much useful work was carried out in the drainage of houses, in several instances a complete overhauling of the sanitary arrangements having been made. Additional sanitary accommodation was provided in a number of cases. There is also evidence that some of the tenants in



more or less crowded situations are becoming alive to the beneficial effects of increased ventilation in their homes and greater cleanliness in their surroundings. Street improvements were carried out in Clayport Street, Upper and Lower Howick Streets, and St. Michael's Lane. Allusion is made to the improvement, from a health point of view, that has followed the removal of the cattle market from the centre of the town, and the opening of the new market. A new cowshed, with stallage for thirteen cows, was brought into use; this, unlike many of the older cowsheds, was constructed so as to comply with modern requirements.

*Requirements.*—The provision of suitable houses for the working classes continued to be urgently needed and, until the existing housing accommodation is increased, the subject of overcrowding cannot be effectively dealt with.

The medical officer remarks:—"There is scarcely a type of house in the town which, in either rental or accommodation, meets the requirements of the case."

The water supply, during the year, was again deficient and, beyond the calling in of expert advice, no definite steps appear to have been taken towards the improvement of the existing supply, the inadequacy of which has, for years, been pointed out by the medical officer as an imminent source of danger to the public. The experience of the past year again accentuated the fact that both the quantity and quality of the supply need considerable amendment; the scanty supply, at certain periods, rendered the flushing of some of the sewers and the cleansing of the slaughter houses most difficult, if not actually impossible.

The long talked of sewerage scheme for Canongate and the improvement of the sewage disposal works for the rest of the town were still unfulfilled requirements.

Increased hospital accommodation for the treatment of infectious disease is much needed. There being no facilities for treating two kinds of infectious disease at the same time, and one ward having been almost continuously needed for Diphtheria, cases of Scarlet fever could not be admitted and it became necessary to isolate the latter in the patients' homes.

Improvements in the heating, lighting and ventilation of the Fever Hospital were also required, and the provision of a suitable disinfecting apparatus.

A public mortuary is also much needed.

\* 18'23 if the deaths of ten non-residents occurring in the district are deducted.

#### AMBLE.

Medical Officer of Health, H. M. STUMBLES, M.B., Ch.B.

Area, 1,258 acres; estimated population, 6,000; birth rate, 24.66; general death rate, 9.66; zymotic death rate, 0.66; infant mortality rate (per 1,000 births), 141.89; Phthisis death rate, nil; death rate from respiratory diseases, 1.00.

When compared with the corresponding rates for the previous year, the birth rate and infant mortality rate show respective increases of 0.50 and 17.76; the respiratory death rate has remained stationary, and the remaining rates show decreases as follows:—General death rate, 2.67; zymotic death rate, 0.67; Phthisis death rate, 1.00.

One hundred and forty-eight births were registered during the year and fifty-eight deaths; of the latter twenty-one were of children under one year, and fifteen of persons sixty-five years and upwards.

Forty-one cases of infectious diseases were notified as follows:—Diphtheria and Membranous croup, 33; Scarlet fever, 5; Erysipelas, 3.

Four deaths occurred from zymotic disease, viz.:—Diphtheria and Membranous croup, 1; Scarlet fever, 1; Whooping cough, 1; Diarrhoea, 1.

Phthisis caused no deaths; respiratory diseases, 6; heart diseases, 2; accidents, 3; and premature birth, 11.

The Phthisis death rate was the lowest and the general death rate the third lowest recorded in the administrative county. The zymotic death rate was the third lowest among urban districts in the county.

*Infant Mortality.*—In consequence of an outbreak of epidemic Diarrhœa, after the district had been exempt for over five successive years, the medical officer investigated, in more than one hundred cases, the causes responsible for the outbreak. The following valuable information was obtained:—70 per cent. of the children attacked were bottle fed and only 13 per cent. were breast fed. Amongst the seventeen infants who had passed the bottle stage, the injudicious manner of feeding was appalling, and the medical officer remarks, “the memory of one child, between four and five months old, being fed with suet pudding, I shall not readily forget.”

*Infectious Diseases.*—Of the thirty-three causes of Diphtheria reported, the majority were treated with Antitoxin and the medical officer recommends that the use of this “life-saving treatment” should be further facilitated by the council placing a supply of serum at the disposal of the medical men practising in the town.

Periodical disinfection of schools was still carried out.

It is satisfactory to note that, for the first time, no deaths from Phthisis were recorded in this district.

*Factory and Workshop Act.*—Seventeen factories and thirty-five workshops were on the register at the close of the year under review. The number of inspections made was not stated but, according to the report, there were no contraventions of the Act and the sanitary and hygienic conditions were found to be satisfactory.

*Improvements.*—A considerable number of new houses were erected during the year and several improvements to existing houses were effected. The cases of overcrowding which came under notice were effectually dealt with. Amongst the many nuisances which were remedied during the year were one in Queen Street and one at Albert House, which for a long time had required attention.

In order to further augment the volume of water available, the supply pipes from the springs at Hazon were duplicated over a part of the course and a plentiful supply was obtained throughout the summer.

*Requirements.*—The medical officer begs the council’s serious attention to the structure, size and insanitary condition of many of the ash closets and privy middens which still exist and which “are always a menace to the public health.” In relation to this matter it is also noticed, with regret, that many of the new houses built during the year have not been provided with water closets. Referring to the perpetuation of the conservancy system, the medical officer states,

“Surely in a town such as ours, with a plentiful supply of water, a stop should be put to the erection of these insanitary conveniences. The bye-laws should be so amended that water closets should be provided to all new property. . . . Flies in thousands spend their day in these privy middens and their night in the warm kitchen, pantry or closet, fouling the milk and food with particles of half decayed human excreta.”

The more frequent removal of refuse matters from houses and the carrying out of scavenging operations at night are also matters requiring attention. “It is repelling,” states the medical officer, “to see the butcher, dairyman and baker working side by side with the scavenger, for it necessarily follows that a considerable contamination of food by particles of filth must result.”

The medical officer also recommends the erection of a public slaughter house on the outskirts of the town to replace the private slaughter



houses which, being closely hemmed in by inhabited houses, are an undesirable element from a health point of view.

Improved ventilation of sewers, the erection of a public mortuary and the prompt remedying of nuisances brought to the notice of the council by its officers are matters to which the attention of the Local Authority is further directed.

#### ASHINGTON.

Medical Officer of Health, R. J. MILLS, M.B., B.S.

Area, 2,870 acres; estimated population, 20,000; birth rate, 40.45; general death rate, 16.55; zymotic death rate, 1.0; infant mortality rate (per 1,000 births), 202.71; Phthisis death rate, 0.85; death rate from respiratory diseases, 1.65.

With the exception of the zymotic death rate, which has decreased by 0.35, all the above rates have increased, in comparison with the previous year, as follows:—Birth rate, 5.3; general death rate, 3.1; infant mortality rate, 56.2; Phthisis death rate, 0.25 and respiratory death rate, 0.2.

Eight hundred and nine births were registered during the year and three hundred and thirty-one deaths; of the latter one hundred and sixty-four were of children under one year, and thirty-four of persons sixty-five years and upwards.

One hundred and four cases of infectious disease were notified as follows:—Diphtheria and Membranous croup, 41; Erysipelas, 19; Scarlet fever, 17; Enteric fever, 25; Continued fever, 2.

Twenty deaths occurred from zymotic disease, viz.:—Whooping cough, 9; Diphtheria and Membranous croup, 6; Enteric fever, 1; Continued fever, 1; Diarrhœa, 3.

Phthisis caused 17 deaths; respiratory diseases, 33; heart diseases, 32; accidents, 7; premature birth, 22.

The birth rate was the second highest recorded in the administrative county.

The following table gives for each of the two sub-divisions of the district, the population, the birth rate, the various mortality rates, the number of cases of infectious disease notified and the attack rate of the latter per 1,000 population:—

| Sub district.  | Popu-<br>lation. | Births. |                          | Deaths. |                          | Infant<br>deaths. |                              | Zymotic<br>deaths. |                          | Infectious<br>diseases. |                                 |
|----------------|------------------|---------|--------------------------|---------|--------------------------|-------------------|------------------------------|--------------------|--------------------------|-------------------------|---------------------------------|
|                |                  | No.     | Rate<br>per 1000<br>pop. | No.     | Rate<br>per 1000<br>pop. | No.               | Rate<br>per 1,000<br>births. | No.                | Rate<br>per 1000<br>pop. | No.<br>notified.        | Attack<br>rate per<br>1000 pop. |
| Ashington ...  | 7,000            | 190     | 27.14                    | 89      | 12.72                    | 27                | 142.1                        | 5                  | 0.71                     | 45                      | 6.42                            |
| Hirst ...      | 13,000           | 619     | 47.61                    | 242     | 18.61                    | 137               | 221.3                        | 15                 | 1.15                     | 59                      | 4.53                            |
| Whole district | 20,000           | 809     | 40.65                    | 331     | 16.55                    | 164               | 202.7                        | 20                 | 1.00                     | 104                     | 5.20                            |

In commenting on the increased infantile mortality and the influence of Diarrhœal disease thereon, the medical officer remarks:—

“The climatic conditions favoured its spread, the congested housing, the proximity of ash-pits and privies, the innocent carelessness of mothers too young to be such, the reprehensible habit of taking advice from one and all except the doctor and the manifest want of care in infant dietary all increased our difficulties. These infants are the raw material of good workmen and mothers; they are the potential workers of the next generation, the main asset in a working community. I am sorry to state that there does not exist the same feeling of national loss



“as a corresponding adult death roll would call forth and yet it is the raw material that requires the greatest nourishing and tending. To combat this, strenuous action is required in a propaganda of education in the moral and hygienic aspects of motherhood. A great deal of this can be done at school and more can be done by evening continuation classes for girls, and still more by the parents taking up this obligation. The self-reliant mother can afford to do without the precarious advice of those old dames and neighbours whose experience without knowledge exacts its toll in disease and infant lives. This education of mothers in domestic hygiene, in the administration of pure food and in their responsibility to themselves as mothers, can be attained by the local authority in the provision of trained health visitors.”

All the twenty-five cases of Enteric fever were removed to and treated in the Isolation Hospital and only one of the cases terminated fatally. The medical officer is of opinion that the provision of antitoxin by the council, and more effective isolation, exerted a material influence in reducing the amount of Diphtheria during the year under consideration.

The increase in the number of deaths from Phthisis is evidence that, in spite of the precautions taken and warnings given, there is still a lamentable amount of ignorance as to the infectious nature of this disease.

In the case of infectious diseases, including Phthisis, the infected houses were disinfected immediately after the death, recovery or removal to hospital of the patient, and the patient's clothing, etc., were disinfected at the hospital by steam.

*Factories and Workshops.*—Twenty-four workshops and nine factories were on the register at the close of the year. Two hundred and fifty-four inspections were made, but in only three cases were defects found; two of these were remedied and one was receiving attention at the end of the year. There were no outworkers and no underground bakehouses in the district.

*Dairies, Cowsheds and Milkshops.*—The standard required in the above is reported to have been well maintained during the year under review, no overcrowding of cattle having been met with, and the sanitary arrangements are stated to have been uniformly excellent. One additional cowshed was erected and in one case the water supply was improved. The number of cowsheds, etc., on register is not stated in the report. In the case of one farm an outbreak of Diphtheria occurred and the whole family were promptly removed and isolated until bacteriological evidence of freedom from infection warranted their return.

*Improvements*—A number of new houses were erected during the year and it is satisfactory to note that considerable improvements in housing conditions were inaugurated in the direction of the paving of yards, greater air space between blocks of houses and in some cases by the provision of baths and water closets, etc.

New water mains, to meet the growing requirements of the Hirst district were laid and many houses were furnished with a separate supply. The services of a plumber superintendent and assistant were also secured.

All the sewers in the district are reported to have been in good working condition, and in several instances additional facilities for flushing were successfully instituted.

Lime spraying of ashpits, etc., was effectively carried out and an additional machine was purchased in order to facilitate this work.

A considerable amount of work was carried out in the direction of improvement to streets, included in which may be mentioned, the relaying, with tar macadam, of the main street, the improvement of the back streets at Morven Terrace and Station Road, the provision of asphalt

footpaths opposite First Row, Long Row and Woodhorn Road, as well as a considerable number of repairs to footpaths in several private streets.

New schools at Hirst were occupied and the improved sanitary conditions and the relief of the congested and overcrowded conditions which previously existed cannot fail to have an appreciable effect on the health of the children of school age. The prevalence of ringworm and other diseases of the scalp, in school children, which was commented upon in the previous annual report, had abated.

The efficient condition in which the isolation hospital was maintained and the growing appreciation of its value by the public must be credited with preventing, to a considerable extent, what would probably otherwise have been a very serious epidemic of Enteric fever.

*Requirements.*—Water for domestic purposes is still drawn from the mines and would be greatly improved by the adoption of an efficient and reliable system of filtration.

The condition of many of the private streets demands considerable improvement.

The provision of a refuse destructor might well be considered by the Sanitary Authority and thus the necessity for “tipping” all house refuse—a most undesirable method in the case of a town with a population of 20,000, and especially where the privy midden system is in vogue—would be obviated.

The erection of a public slaughter house to replace those which, by reason of their close proximity to dwelling houses, are objectionable.

The drafting of bye-laws regulating slaughter houses. The failure to make such bye-laws is a contravention of Sec. 128 of the Towns Improvement Clauses Act 1847, incorporated with the Public Health Act 1875 (Sec. 169).

The medical officer pleads for the provision of w.c.’s in all new houses and for the burning of house refuse instead of the practice universally adopted of throwing everything into the ashpit—an ever present cause of nuisance and a danger to health.

The long-standing nuisance caused by the polluted condition of the Haydon Letch was only partially remedied and cattle in several fields bordering on the Letch, and on the River Lyne after being joined by the Haydon Letch, had not been provided with the independent water supply promised in June, 1907.

#### BEDLINGTONSHIRE.

Medical Officer of Health, R. S. TROTTER, M.D., C.M.

Area, 8,533 acres; estimated population, 24,634; birth rate, 31.82; general death rate, 15.62; zymotic death rate, 1.66; infant mortality rate (per 1,000 births), 174.74; Phthisis death rate, 0.81; death rate from respiratory diseases, 2.35.

When compared with the corresponding rates for the preceding year, the Phthisis death rate, alone, shows a decrease, viz., 0.07; the remaining rates have increased as follows:—Birth rate, by 0.72; general death rate, 2.95; zymotic death rate, 0.49; infant mortality rate, 42.13; and respiratory death rate, 0.67.

Seven hundred and eighty-four births were registered during the year and three hundred and eighty-five deaths; of the latter one hundred and thirty-seven were of children under one year, and sixty-six of persons sixty-five years and upwards.

Ninety-five cases of infectious disease were notified as follows:—Enteric fever, 38; Diphtheria and Membranous croup, 23; Scarlet fever, 21; Erysipelas, 12; Continued fever, 1.

Forty-one deaths occurred from zymotic disease, viz.:—Diarrhœa, 20; Whooping cough, 9; Enteric fever, 8; Diphtheria and Membranous croup, 3; Scarlet fever, 1.



Phthisis caused 20 deaths; respiratory diseases, 58; heart diseases, 33; accidents, 9; premature birth, 27.

The medical officer comments upon the appalling fatality of children during the first year of life (174 per 1,000 births) and points out that "if "to these deaths were added those of children under five years of age, "many of which have, this year, occurred under two years of age, nearly "50 per cent. of our annual death rate is accounted for. There is much "food for thought in these figures."

Of the twenty-three Diphtheria cases, five occurred in Bedlington, Choppington and Sleekburn; four in East and West Sleekburn; two in Barrington; one in Cambois and one in Netherton.

The outbreak of Enteric fever, which became epidemic during the last quarter of the year, was the subject of a special report by the Medical Officer of Health. From this report, it appears that cases occurred in Barrington, Bedlington, Choppington, West Sleekburn and Netherton; that thirteen of the total of thirty-eight cases occurred in Barrington, ten in Bedlington, six in East and West Sleekburn, five in Netherton and four in Choppington. Cambois and Sleekburn were alone exempt from the disease.

The medical officer, having satisfied himself after an exhaustive inquiry that neither contaminated water nor milk played any part in the spread of the disease, remarks:—

"In certain parts of the district the disease appears to be endemic. "In all privy midden districts, such as this, want of care in the disposal "of an Enteric patient's evacuations and the deposit of the same in the "privies and ashpits leaves us open to a source of infection over which "we have but little control. These privies and ashpits are often "infested with swarms of flies which, having ready access to the houses "adjoining, readily contaminate any food that is not protected."

The medical officer also mentions the possibility of the disease having been spread by personal contact and the means adopted to prevent, as far as possible, the spread of infection. The isolation hospital in which eighteen of the patients were treated, was of inestimable value in checking the spread of infection, in providing such accommodation, nursing, etc., as could not have been obtained in the patients' homes and for disinfecting all bedding, clothing, etc.

The following tables give some statistical information relating to the whole district and also to the seven sub-districts into which the medical officer divides this urban district and indicate the localities in which notifiable infectious diseases occurred, the number of cases and the attack rates per 1,000 in each sub-district.

| Sub-districts.             | Popu-<br>lation. | Births. |                          | Deaths. |                          | Infant<br>deaths. |                             | Zymotic<br>deaths. |                          | Infectious<br>diseases. |                                 |
|----------------------------|------------------|---------|--------------------------|---------|--------------------------|-------------------|-----------------------------|--------------------|--------------------------|-------------------------|---------------------------------|
|                            |                  | No.     | Rate<br>per 1000<br>pop. | No.     | Rate<br>per 1000<br>pop. | No.               | Rate<br>per 1000<br>births. | No.                | Rate<br>per 1000<br>pop. | No.<br>notified.        | Attack<br>rate per<br>1000 pop. |
| Barrington ...             | 1,117            | 35      | 31·3                     | 29      | 25·9                     | 7                 | 200·0                       | 5                  | 4·4                      | 18                      | 16·1                            |
| Bedlington ...             | 6 313            | 205     | 32·4                     | 106     | 16·7                     | 42                | 204·8                       | 11                 | 1·7                      | 21                      | 3·3                             |
| Cambois ...                | 2,745            | 77      | 28·0                     | 32      | 11·6                     | 9                 | 116·8                       | 1                  | 0·3                      | 2                       | 0·7                             |
| Choppington                | 6,214            | 226     | 36·3                     | 101     | 16·2                     | 35                | 154·8                       | 10                 | 1·6                      | 16                      | 2·5                             |
| Netherton ...              | 1,830            | 62      | 33·8                     | 31      | 16·9                     | 12                | 193·4                       | 6                  | 3·2                      | 9                       | 4·9                             |
| Sleekburn ...              | 4,848            | 146     | 30·1                     | 66      | 13·6                     | 27                | 184·9                       | 6                  | 1·2                      | 19                      | 3·9                             |
| East and West<br>Sleekburn | 1,567            | 33      | 21·0                     | 20      | 12·7                     | 5                 | 151·5                       | 2                  | 1·2                      | 10                      | 6·3                             |
| Whole district             | 24,634           | 784     | 31·82                    | 385     | 15·62                    | 137               | 174·74                      | 41                 | 1·66                     | 95                      | 3·85                            |



| Sub-districts.          | Scarlet Fever. |              | Enteric Fever. |              | Diphtheria. |              | Continued Fever. |              | Erysipelas. |              |
|-------------------------|----------------|--------------|----------------|--------------|-------------|--------------|------------------|--------------|-------------|--------------|
|                         | No.            | Attack Rate. | No.            | Attack Rate. | No.         | Attack Rate. | No.              | Attack Rate. | No.         | Attack Rate. |
| Barrington ... ..       | 3              | 2·6          | 13             | 11·6         | 2           | 1·70         | —                | —            | —           | —            |
| Bedlington ... ..       | 1              | 0·15         | 10             | 1·5          | 5           | 0·79         | 1                | 0·15         | 4           | 0·60         |
| Cambois ... ..          | —              | —            | —              | —            | 1           | 0·36         | —                | —            | 1           | 0·36         |
| Choppington ... ..      | 4              | 0·64         | 4              | 0·64         | 5           | 0·80         | —                | —            | 3           | 0·47         |
| Netherton ... ..        | 3              | 1·6          | 5              | 2·7          | 1           | 0·54         | —                | —            | —           | —            |
| Sleekburn ... ..        | 10             | 2·0          | —              | —            | 5           | 1·00         | —                | —            | 4           | 0·82         |
| East and West Sleekburn | —              | —            | 6              | 3·8          | 4           | 2·50         | —                | —            | —           | —            |
| Totals ... ..           | 21             | 0·85         | 38             | 1·5          | 23          | 0·93         | 1                | 0·04         | 12          | 0·45         |

Of the ninety-five cases of infectious disease—Scarlet fever, Enteric and Continued fever, Diphtheria and Erysipelas—notified during the year, twenty-one occurred in Bedlington, nineteen in Sleekburn, eighteen in Barrington, sixteen in Choppington, ten in East and West Sleekburn and two in Cambois.

From the first table it appears that the general death rate was below the average for the whole district in Cambois, East and West Sleekburn, and Sleekburn, and above the average in Barrington, Bedlington, Choppington and Netherton.

The attack rate per 1,000 population was markedly higher in Barrington, East and West Sleekburn, and Netherton, in the order named, than in the other sub-divisions.

Of the non-notifiable diseases, Measles, Whooping cough, Mumps and Ophthalmia occurred in many parts of the district, though the cases of the latter disease were not so numerous as during the preceding year. In commenting on the deaths from tubercular disease, and more especially from Phthisis, the medical officer, after pointing out various measures by which the spread of this disease may be prevented, remarks that, “The economic aspect of the question alone would warrant the adoption of stringent measures for stamping out the disease, and it is much to the credit of some of our colonies that they are setting an example to the mother country in adopting modern methods to stamp out the disease and keep their territories, as far as possible, free from the entrance of further centres from which the infection may be disseminated.”

As there is no system of compulsory notification of Phthisis in operation in this district, and no provision made for the reception of these cases in either of the two hospitals, the medical officer suggests, for the council’s consideration, the propriety of securing one or more beds at the Barrasford Sanatorium.

*Common Lodging Houses.*—The defects existing in the common lodging houses were mentioned in a report by the county medical officer in the autumn of the year under review.

*Dairies, Cowsheds, and Milkshops.*—The number of the above on the register, and the defects found or remedied are not stated in the report, but the medical officer emphasises the importance of a pure milk supply in the following words:—“When one realises that a pure supply of milk is absolutely essential in infant life and for the sustenance of invalids, one cannot but insist that the conditions under which milk is obtained and supplied should be such as to render contamination improbable. Much remains to be done, practically all over the country, to secure this wholesome state of affairs, as many milk purveyors are notoriously careless in matters of cleanliness in the byres, dairies and vessels used for distributing purposes.”

Regulations under the Dairies, Cowsheds and Milkshops Order were drafted and confirmed by the Local Government Board.

*Slaughter Houses.*—New bye-laws relating to these were drawn up during the year, and when they come into force, the Sanitary Authority will be enabled to deal, much more efficiently, with many of the existing conditions which are far from satisfactory. Some of the slaughter houses are, structurally, in a satisfactory condition, but others are quite the reverse, the principal defects being faulty conditions of floors, walls, and drainage, absence of covered receptacles for the reception of filth and garbage, and a general want of cleanliness of the slaughter house and the receptacles.

*Factories and Workshops.*—Eighty-six workshops appear on the register and visits of inspection were made as follows:—Factories, 50; workshops, 42; workplaces, 20. Several instances of want of cleanliness and other nuisances were found and remedied without any legal action being taken. This is one of the districts in which the Factory and Workshop Act 1901 entails a very considerable amount of extra work upon the officials.

*Improvements.*—Housing.—Certificates of occupation were granted for one hundred and sixteen new houses and a number of the older houses were altered as regards their internal arrangement. The class of house which is now being erected is of a much better type than those built in former years and the proportion of four and five room houses is relatively greater than formerly.

*Adoptive Acts.*—The adoption of Part III. of the Housing of the Working Classes Act, 1890, appears to have stimulated private builders to greater activity, and, for this reason, no statutory action by the council was considered necessary.

*Bye-laws.*—Bye-laws relating to new streets and buildings, slaughter houses, etc., were drafted, and, at the end of the year, were awaiting confirmation by the Local Government Board. These will enable the Local Authority to deal with many unsatisfactory conditions more thoroughly and more expeditiously than is possible under the existing bye-laws which date back to 1862.

*Water Supply.*—The extension of the filter beds at the Water Works was commenced and it is stated that “ere long there will be no reason to complain of too rapid filtration.” The council have also made arrangements with the Tynemouth Corporation whereby they may, if necessary, supplement or supplant their present supply by taking water from the Tynemouth mains which pass through the Bedlington Council’s area.

The water supply was well maintained as regards quantity throughout the year, but, as regards its quality, some doubt is expressed by the medical officer as to the reliance which can be placed on this when it is considered that the river from which the supply is obtained receives the effluent from sewage works which may or may not be efficiently handled in the future. During the year many new private and public services were laid on to premises.

*Schools.*—New schools were built during the year, but overcrowding still existed in some of the older schools. On the question of admitting children, under 5 years of age, to school attendance, the medical officer remarks:—“I should like to see infant schools abolished altogether as they do more harm than good to infant life, and we see, in this district, many children permanently injured as the result of diseases contracted in infant schools. It is next to impossible to prevent the spread of infectious diseases in the district if infants at the most susceptible age are permitted to attend these schools. They have by no means the same liability to attack at home.”

In addition to the above improvements recently effected, the following may also be mentioned:—



**Water Distribution.**—This was amended by the extension of water mains or the provision of additional standpipes in Bedlington, Guide Post, Sleekburn, Cambois, East Sleekburn, Netherton Colliery and Netherton Village.

**Sewerage and drainage.**—This was greatly improved in several portions of the district; special reference may be made to the new main sewer from Bedlington Bank Top to Bedlington which will take the sewage from the houses at the East End of Bedlington, from the Market Place, from nearly all the houses at the West End, from all the colliery houses and from Puddler's Row, Bank Top. The ventilation of sewers was, in a few cases, improved by the provision of additional ventilating shafts.

**Sanitary Conveniences.**—A considerable number of w.c.'s or ash-closets were substituted for the insanitary privy middens which previously existed.

**Roads and Footpaths.**—Some of the roads at Bedlington Colliery and other places were relaid or repaired and about a mile of footpaths was kerbed and asphalted or relaid.

**Requirements.**—The provision of additional housing accommodation stands out pre-eminently amongst the many requirements of this district. It is stated in the medical officer's report that "so great is the demand for houses that many people are paying rent for houses before they are built so that they may have the first chance of them." Until increased housing accommodation is provided the necessary improvements to existing houses and the prevention of overcrowding, etc., cannot be carried out with the rapidity which is so desirable. The many back-to-back houses which exist, especially in Bedlington, Sleekburn, Choppington and Barrington, and the condition of practically all the tenement houses, are matters which urgently call for amendment.

**Bye-laws.**—It is important that all available means should be taken for obtaining the confirmation of the bye-laws recently drafted and for enforcing them as soon as they come into operation; also that the Sanitary Authority should avail themselves of the increased powers conferred by adopting the Public Health Acts Amendment Acts 1890 and 1907, the Infectious Diseases (Prevention) Act 1890, and the Private Street Works Act 1892 all of which confer upon local authorities additional facilities for dealing with the many insanitary conditions which still prevail in this district.

**Sewerage and Sewage Disposal.**—Allusion has recently been made to the desirability of substituting pipe sewers for uneven, dilapidated and offensive surface channels and also of providing suitable drainage for many houses, yards, etc., which are exceedingly damp. On the above subject, the medical officer remarks, "It has not, so far as I am aware, been customary to provide sub-soil drainage for houses, and further, it is customary to allow water discharged from the roofs to accumulate where it falls, soak into the foundations or be directed on to the foot-path or pavement and find its level as best it can."

Improvements are still needed as regards the sewerage of the following places:—Netherton Colliery, Choppington Colliery, Scotland Gate, houses near Choppington Station, Barrington Colliery, Routledge's Buildings, Red Row, Cambois, etc., and especially is this desirable in the localities which are provided with the offensive open channel sewers so common in this district. The offensive ditch at West Sleekburn, to which attention has frequently been called, is still *in statu quo* and should be filled in and a covered sewer provided.

**Pollution of Watercourses.**—Measures for preventing the gross pollution, by sewage, of several watercourses (*e.g.*, Netherton Letch, Green Letch, Willow Burn, etc.) are still much needed.

**Making up of Roads and Paving of Yards.**—The necessity of paving passages and yards with impervious and durable material has been impressed upon the council for many years and, referring to the necessity



of amending the condition of roads, back streets and footpaths, the medical officer observes:—

“The deplorable condition of many of the roads in the colliery villages and in the back streets in bad weather is largely responsible for the colds caught which leads to the swelling of our death returns from respiratory diseases. It is not a credit to the district that this state of affairs is tolerated from year to year. . . . I say without hesitation that the existing condition of many of the roads and pathways in many of our colliery villages is no credit to our vaunted civilisation, and how the authorities can prosecute parents for not sending their children to school in bad weather over such roads and paths passes the average comprehension.”

**Excrement and Refuse Disposal.**—The disposal of excrement and refuse and the method of scavenging (*i.e.*, by contract) cannot be regarded as fulfilling sanitary requirements. Alluding to the manner in which some of the scavenging contractors carry out their work, the report state, “drum them as we may, great difficulty is experienced . . . in getting them to perform their duties in a satisfactory manner. The time may come when the council will have to take this matter into their own hands.”

The desirability of the council carrying out all scavenging operations, by their own staff, does not appear to have been seriously considered. A large rural district council have, however, for a considerable time, scavenged their district (by men constantly employed for the purpose) and their experience, extending over four years is that the work is done more regularly, more thoroughly and at a less cost than it was ever carried out under the contract system.

The abolition of numerous insanitary and dilapidated privy ashpits which still exist in almost every sub-district and the roofing over and internal cementing of others are measures urgently needed.

The medical officer, in his annual reports for 1905, 1906, and 1907 has drawn attention to the condition of the West Sleekburn gutter, to the offensive condition of surface channels, to the unsatisfactory condition of privy ashpits, to the unmade condition of roads and back streets in many of the colliery rows and, recently, to the dilapidated spouting in several parts of the district, to the desirability of adopting the Public Health Acts Amendment Act 1890, the Infectious Diseases (Prevention) Act 1890, of framing new bye-laws and of adopting regulations under the Dairies, Cowsheds and Milkshops Order.

#### BLYTH.

Medical Officer of Health, JOHN CROMIE, L.R.C.P., L.R.C.S.

Area, 3,016 acres; estimated population, 27,481; birth rate, 33.11; general death rate, \*15.13; zymotic death rate, 1.67; infant mortality rate (per 1,000 births), 148.35; Phthisis death rate, 0.98; death rate from respiratory diseases, 2.20.

When compared with the corresponding rates for the preceding year a decrease is shown in the Phthisis death rate of 0.09; the remaining rates have increased as follows:—Birth rate by 1.98; general death rate, 1.96; zymotic death rate, 0.01; infant death rate, 29.17; respiratory death rate, 0.39.

Nine hundred and ten births were registered during the year and four hundred and sixteen deaths: of the latter one hundred and thirty-five were of children under one year, and seventy-six of persons sixty-five years and upwards.

One hundred and two cases of infectious diseases were notified as follows:—Diphtheria and Membranous croup, 48; Scarlet fever, 27; Erysipelas, 13; Enteric fever, 12; Continued fever, 2.

Forty-six deaths occurred from zymotic disease, viz.:—Whooping cough, 21; Diarrhœa, 17; Diphtheria and Membranous croup, 6; Enteric fever, 2.

Phthisis caused 27 deaths; respiratory diseases, 63; heart diseases, 36; accidents, 13; premature birth, 17.

The following table indicates the sub-divisions of the Blyth Urban District and some vital statistics relating to the district as a whole and also to the several sub-divisions:—

| Sub-districts.                                     | Popu-<br>lation. | Births. |                          | Deaths. |                          | Infant<br>deaths. |                             | Zymotic<br>deaths. |                          | Infectious<br>diseases. |                                 |
|--|------------------|---------|--------------------------|---------|--------------------------|-------------------|-----------------------------|--------------------|--------------------------|-------------------------|---------------------------------|
|  |                  | No.     | Rate<br>per 1000<br>pop. | No.     | Rate<br>per 1000<br>pop. | No.               | Rate<br>per 1000<br>births. | No.                | Rate<br>per 1000<br>pop. | No.<br>notified.        | Attack<br>rate per<br>1000 pop. |
| North Ward   | 4,797            | 108     | 22·5                     | 55      | 11·4                     | 11                | 101·8                       | 6                  | 1·25                     | 12                      | 2·5                             |
| South Ward   | 1,966            | 58      | 29·5                     | 21      | 10·6                     | 7                 | 120·6                       | 4                  | 2·03                     | 18                      | 9·1                             |
| Waterloo and<br>Crofton ...                        | 7,160            | 231     | 32·2                     | 119     | 16·6                     | 31                | 134·2                       | 7                  | 0·97                     | 31                      | 4·3                             |
| Cowpen Quay  | 6,253            | 244     | 39·0                     | 99      | 15·8                     | 40                | 163·9                       | 12                 | 1·91                     | 17                      | 2·7                             |
| Newsham<br>Buildings,<br>Cowpen<br>Colliery, &c. } | 3,720            | 126     | 33·8                     | 68      | 18·2                     | 26                | 206·3                       | 10                 | 2·69                     | 13                      | 2·4                             |
| Kitty<br>Brewster,<br>Cowpen<br>Village, &c. }     | 1,844            | 70      | 37·9                     | 33      | 17·8                     | 11                | 157·1                       | 4                  | 2·17                     | 3                       | 1·6                             |
| Bebside ...  | 1,741            | 73      | 41·9                     | 28      | 16·0                     | 9                 | 123·2                       | 3                  | 1·72                     | 8                       | 4·5                             |
| Whole district                                     | 27,481           | 910     | 33·1                     | 423     | 15·39                    | 135               | 148·35                      | 46                 | 1·67                     | 102                     | 3·7                             |

It is noticeable that the birth rate for the whole district is again very high, and rather higher than during the previous year. It is, however, below the average for the ten years 1898-1907. It is considerably lower in the North Ward (22·5) than in any other sub-district; in five sub-districts it exceeded 30 per 1,000 population and in the Bebside sub-division was over 40 per 1,000.

The general death rate for the whole district, though somewhat higher than in 1907 was below the average for the preceding ten years. The rate was below 12 per 1,000 in the North and South Wards and in the remaining sub-divisions varied from 15·8 to 18·2 per 1,000.

The infant mortality rate was also lowest in the North and South Wards and in the Newsham Buildings and Cowpen Colliery division reached the enormous figure of 206 per 1,000 births; the rate for the whole district (148·35) was, however, considerably below the average rate for the ten years 1898-1907.

The medical officer points out that the infant mortality rate was “nearly four times higher for illegitimate than for legitimate children, “that almost one-third of the total deaths were those of infants under “one year,” and expresses the opinion that “the time has come to make “further efforts towards the reduction of this rate.” Of the one hundred and thirty-five infant deaths, twenty-one were due to premature birth and congenital defects and although these conditions are beyond the control of the Health Authority, it is pointed out by the medical officer that “greater care on the part of expectant mothers would, no doubt, minimise the number of deaths from these causes.”

Of non-notifiable infectious diseases, Whooping cough alone appears to have been prevalent. This disease, which affected two of the seven sub-



districts in the previous year, became epidemic over the whole area during the year under review and was the cause of twenty-one deaths of children under five years old. The outbreak had very little influence on school attendances and, for this reason, it was not considered necessary to adopt school closure as a preventive measure.

Cases of Diphtheria occurred in all the sub-districts and during every month of the year, but its incidence could not be traced to any common cause. Compared with the previous year, there was a marked diminution in the number of cases notified and in the percentage mortality from this disease.

Of the twelve cases of Enteric fever, five were, in the medical officer's opinion, traceable to a defective sewer, and the outbreak in the locality was speedily terminated when the above-named defect was remedied.

Scarlet fever was less prevalent than during 1907, though cases were notified during ten months of the year. During 1908 no deaths resulted from this disease.

Diarrhœa was more fatal than during the previous year. Of the seventeen deaths caused by this disease, eleven occurred in children under twelve months old, most of whom were bottle fed. The medical officer points out that "the mortality rate was highest in Bebside, where "the water supply was scantiest, and seven times as high in Cowpen Quay as in the Waterloo and Crofton sub-division, though the population of the latter district is greater than that of Cowpen Quay."

With a view to more successfully combating the waste of life from Tubercular disease, the medical officer suggests, as regards Phthisis, "an extension of the present voluntary system of notification and the "payment of a fixed fee to medical practitioners for each notification "received; advice could then be given as to the proper precautions to "adopt to prevent the spread of this disease." The suggestion is also offered that "provision might be made to enable Phthisical patients to "take advantage of residence in the Barrasford Sanatorium where the "disease is treated and often cured if taken in its early stages."

*Factories and Workshops.*—One hundred and twenty factories and workshops, of which eight are bakehouses, were on the register. None of the bakehouses are underground, all are comparatively modern and no cause for complaint was found in any. The number of visits of inspection made were as follows:—Factories, 14; workshops, 94; workplaces, 61; total, 169. Twenty-two contraventions of the Act were found, all of which were remedied. The medical officer states that he has noticed, in his visits to these premises, that greater attention is now paid to the use of the various means of ventilation provided. This is another of the districts in which the Factory and Workshop Act imposes a great amount of extra work upon the authority's officials.

*Dairies and Cowsheds.*—Twenty-six cowsheds and dairies were on the register and were regularly inspected throughout the year. The greatly increased powers which were obtained during 1907 by adopting regulations under the Dairies, Cowsheds and Milkshops Order were of great assistance to the officials and enabled the council to require the closing of one cowshed.

*Common Lodging Houses.*—Three common lodging houses were on the register; systematic inspections were made throughout the year by both the medical officer and sanitary inspector. In one case additional sanitary and lavatory accommodation was found to be necessary and the notice issued by the council relating thereto was complied with. The register was thoroughly revised and brought up to date.

*Slaughter Houses.*—The number of these premises on the register is not stated. Several visits of inspection were paid, especially on killing days, but no carcasses of animals affected with Tuberculosis were dis-



covered. Limewashing was periodically carried out in accordance with the bye-laws and the condition of the private slaughter houses is stated to have been considerably improved since the scavenging of these premises was undertaken by the council.

*Improvements.*—Building operations were continued in the district and forty-one new houses were erected and certified as fit for habitation.

Extensions of water mains were laid to the extent of nearly 1,800 lineal yards. Fifty-seven service pipes were fixed for the supply of water to new houses, etc.

Arrangements were made for providing a recreation ground at Cowpen Quay.

The following improvements to streets were effected, viz., the making up of Back Railway Cottages, Newsham, and part of Princess Louise Road; the kerbing of the footpath of the main road from Cowpen Row to the cemetery; the re-making, flagging and channelling of the footpath on the north side of Waterloo Road.

Fifty additional street lamps were erected at Bebside Furnace and in other parts of the district.

The work of taking up and relaying the old sewers was continued and three hundred and forty lineal yards of the above work was accomplished during the year. In addition, five hundred and twenty yards of new sewers, seven new manholes and eight flushing chambers were constructed. The storm water drain at the South Harbour was also partially reconstructed.

The scavenging of the district was mainly carried out by the council's own workmen, and the change from the contract system has resulted in the work being carried out with much greater efficiency. During the year thirty-one houses were supplied with water closets in place of the privy middens which previously existed.

Several important improvements were effected during the year as regards the sanitary conveniences in connection with the public-houses of the district; new urinals were erected in some cases, and water closets were substituted for privies in many instances.

The disinfection of the whole of the council's schools was carried out during the summer vacation. The rooms were sprayed with Formalin and afterwards fumigated.

Several improvements in the ventilation and drainage of cowsheds were carried out during the year by the owners of these premises and, as before mentioned, one dairy was closed; another was re-built.

*Requirements.*—A more satisfactory supply of water for the East and West Wards. The present supply is derived from the mines and from Healey Wood; the last-named source is surface water and is obviously liable to pollution, as is also the case with water raised from the mines with the exception of that distributed to houses at Isabella Pit which is derived from a feeder in the shaft above the workings. At the last-mentioned place, the distribution is inadequate. Independently of the sources from which the North and East Wards are supplied, neither the chemical analysis nor the bacteriological examinations (the latter repeated several times during a period of six months) was at all satisfactory and the medical officer urged the council to seriously consider and to adopt measures for guarding against the serious consequences which may arise from a domestic water supply liable to serious pollution.

Increased provision for flushing the sewers. With respect to the above, the medical officer points out that "owing to the quantity of water supplied in the East and West Wards, flushings are not of sufficient frequency, nor is the water used for flushing of sufficient volume. This is a matter of great importance, as owing to the fact that your biggest sewers are tide locked twice in every day of twenty-

“four hours, it is of pre-eminent importance that no silting should be allowed, otherwise there is bound to be excessive generation of sewer gas, which will bear its influence on the health of the community.”

A bye-law making the provision of w.c.'s compulsory for all new houses.

More satisfactory methods for disposal of excrement and refuse, preferably by means of a modern refuse destructor. The medical officer alludes to the many complaints he had received of nuisance connected with the authority's tips and to the manner in which the latter act as providing breeding places for flies.

The extension of the system of scavenging by the council's own workmen to all parts of the district.

The erection of an isolation hospital for this district alone, and the provision of a steam disinfecter.

The erection, by the authority, of more public slaughter houses and the closure of several private slaughter houses, more particularly in the East Ward, as only under such circumstances can the inspection of meat intended for human food be adequately carried out.

The adoption of the Notification of Births Act, 1907, and the appointment of a Health Visitor.

\* 15.39 if the deaths of nine residents which occurred outside the district are added, and the deaths of two non-residents which occurred in the district are deducted.

#### CRAMLINGTON.

Medical Officer of Health, ROBERT ANDERSON, M.D.

Area, 3,583 acres; estimated population, 6,800; birth rate, 29.55; general death rate, \*14.70; zymotic death rate, 1.76; infant mortality rate (per 1,000 births), 179.10; Phthisis death rate, 0.14; death rate from respiratory diseases, 3.08.

When compared with the rates for the preceding year, the Phthisis death rate and the respiratory death rate show a decrease of 0.15 and 0.3 respectively. The remaining rates have increased as follows:—Birth rate, 1.32; general death rate, 1.61; zymotic death rate, 1.03; and the infantile mortality rate, 43.69.

Two hundred and one births were registered during the year and one hundred deaths; of the latter thirty-six were of children under one year, and thirty of persons sixty-five years and upwards.

Eighteen cases of infectious disease were notified as follows:—Erysipelas, 6; Diphtheria and Membranous croup, 5; Enteric fever, 5; Scarlet fever, 2.

Twelve deaths occurred from zymotic disease, viz.:—Whooping cough, 5; Diarrhoea, 4; Enteric fever, 2; Diphtheria and Membranous croup, 1.

Phthisis caused 1 death; respiratory diseases, 22; heart diseases, 7; accidents, 4; premature birth, 6; murder, 1.

Though the general death rate was slightly higher than during the previous year it was below the average for the years 1898-1907.

The infant mortality rate rose to 179 per 1,000 births which is 6.6 above the average for the previous ten years. The principal causes of death at this age period were Bronchitis, Pneumonia, Tuberculous diseases and premature birth.

The respiratory death rate was the third highest recorded in sanitary districts in the administrative county in the year under review.

Antitoxin treatment was adopted in all the cases of Diphtheria and only one death occurred from this disease out of five cases notified.

The medical officer, in Table III. (relating to notifications of infectious diseases) divides his district into six sub-divisions, but as no figures are



given in Table II. (relating to sub-divisions of the district) as to populations, births or deaths in the sub-districts, the birth rate, the various mortality rates and the attack rate from infectious diseases cannot be calculated for each sub-division.

*Dairies and Cowsheds and Slaughter Houses.*—No mention is made in the report of dairies and cowsheds or of slaughter houses.

*Factories and Workshops.*—There were on the register four workshops and one factory; four inspections were made and no defects were reported to exist.

*Improvements.*—An arrangement between the council and the Tyne-mouth Corporation was made for the supply of water for Shankhouse, High Pit and East Cramlington; the laying of the necessary water mains was completed during the year and the new supply to these villages was expected to be available in February, 1909.

New and enlarged sewage disposal works for the treatment of sewage from the western portion of Cramlington Village were put down and are reported to be acting satisfactorily.

Improvements were effected at the Freeholds at West Cramlington.

The council decided that the West Rows at East Cramlington are to be pulled down as soon as the new houses which are now (1909) being built are completed.

Bye-laws for the new cemetery were approved by the Local Government Board during the year.

*Requirements.*—The adoption of bye-laws relating to new streets and buildings, the prevention of nuisances, etc., is a matter which requires the early attention of the council. With the exception of the bye-laws for the new cemetery, no bye-laws have as yet been sanctioned for this district.

Measures require to be adopted for dealing with the sewage from Shankhouse so as to prevent the gross pollution of the Horton Burn which has been reported from time to time.

\* 15·29 when the deaths of four residents occurring outside the district are added.

#### EARSDON.

Medical Officer of Health, TAYLOR DIXON, M.B., B.S.

Area, 4,705 acres; estimated population, 10,200; birth rate, 38.43; general death rate, \*19.21; zymotic death rate, 3.62; infant mortality rate (per 1,000 births), 227.04; Phthisis death rate, 1.07; death rate from respiratory diseases, 1.96.

When compared with the preceding year, all the above rates show increases as follows:—Birth rate, 5.03; general death rate, 3.81; zymotic death rate, 1.82; infant mortality rate (per 1,000 births), 95.31; Phthisis death rate, 0.27; respiratory death rate, 0.26.

Three hundred and ninety-two births were registered during the year and one hundred and ninety-six deaths; of the latter, eighty-nine were of children under one year, and thirty-eight of persons sixty-five years and upwards.

One hundred and twenty-six cases of infectious disease were notified as follows:—Diphtheria and Membranous croup, 50; Scarlet fever, 43; Erysipelas, 23; Enteric fever, 5; Continued fever, 5.

Thirty-seven deaths occurred from zymotic disease, viz.:—Diarrhoea, 30; Whooping cough, 4; Diphtheria and Membranous croup, 1; Measles, 1; Enteric fever, 1.

Phthisis caused 11 deaths; respiratory diseases, 20; heart diseases, 10; accidents, 9; premature birth, 12.

The general death rate was the third highest and the infant mortality rate the second highest recorded in the administrative county during the year under review.

The medical officer divides his district into four sub-districts for each of which he gives statistical information relating to the births and birth rate, the various mortality rates and the attack rate from infectious diseases :—

| Sub-districts. | Popu-<br>lation. | Births. |                          | Deaths. |                          | Infant<br>deaths. |                             | Zymotic<br>deaths. |                          | Infectious<br>diseases. |                                 |
|----------------|------------------|---------|--------------------------|---------|--------------------------|-------------------|-----------------------------|--------------------|--------------------------|-------------------------|---------------------------------|
|                |                  | No.     | Rate<br>per 1000<br>pop. | No.     | Rate<br>per 1000<br>pop. | No.               | Rate<br>per 1000<br>births. | No.                | Rate<br>per 1000<br>pop. | No.<br>notified.        | Attack<br>rate per<br>1000 pop. |
| Earsdon ...    | 3,470            | 140     | 40·3                     | 71      | 20·4                     | 46                | 328·5                       | 19                 | 5·47                     | 35                      | 10·0                            |
| Backworth ...  | 2,200            | 53      | 24·0                     | 30      | 13·6                     | 7                 | 132·0                       | 2                  | 0·90                     | 34                      | 15·4                            |
| Holywell ...   | 3,490            | 121     | 34·6                     | 60      | 17·1                     | 21                | 173·5                       | 11                 | 3·15                     | 49                      | 14·0                            |
| Murton ..      | 1,040            | 78      | 75·0                     | 34      | 32·6                     | 15                | 192·5                       | 5                  | 4·80                     | 8                       | 7·6                             |
| Whole district | 10,200           | 392     | 38·43                    | 195     | 19·11                    | 89                | 227·04                      | 37                 | 3·62                     | 126                     | 12·35                           |

The following table shows the districts from which the cases of infectious disease were notified and the number of notifications from the respective districts :—

| Sub-districts.    | Scarlet<br>Fever. | Enteric<br>Fever. | Continued<br>Fever. | Diphtheria<br>and Mem.<br>Croup. | Erysipelas. | Totals. |
|-------------------|-------------------|-------------------|---------------------|----------------------------------|-------------|---------|
| Earsdon ...       | 8                 | 1                 | —                   | 21                               | 5           | 35      |
| Backworth ...     | 19                | —                 | —                   | 10                               | 5           | 34      |
| Holywell ...      | 16                | 4                 | 5                   | 15                               | 9           | 49      |
| Murton... ..      | —                 | —                 | —                   | 4                                | 4           | 8       |
| Whole district... | 43                | 5                 | 5                   | 50                               | 23          | 126     |

Thirty-nine of the above patients were removed to the isolation hospital, viz., twenty-nine suffering from Diphtheria, eight from Scarlet fever, and one each from Enteric fever and Erysipelas.

A continuation of the epidemic of Diphtheria reported during the latter months of 1907, occurred during the month of January 1908 when fourteen cases of the disease were notified. The schools in the district were closed and disinfected.

The cases of Scarlet fever were all of a mild type, none being fatal.

Disinfectants were supplied gratis in all cases of infectious disease.

Commenting on the infantile mortality rate, and especially as regards the Earsdon sub-district where it reached the appalling figure of 328·5 per thousand births, the medical officer states :—

“ There can be no doubt that the general health of the district has improved—and yet we have this serious increase in the infant death rate from preventable causes. The increase . . . calls for serious attention. After many warnings, mothers cannot now plead ignorance. I must point out in the first place that the great majority of the deaths were from Diarrhœa, pointing directly to carelessness and improper feeding. Now, in every case which came under my observation, the child fed on breast milk recovered while every fatal case was a bottle fed child. This is very emphatic evidence of the advantage a child has in having its natural food during the prevalence of this disease, so common at a certain time of the year. An effort should be



made to impress upon mothers the additional safety and advantage "to a child in being fed upon breast milk. Where from special causes this is not possible, only sterilized milk should be used, and it is for the council to consider whether they should find means for sterilizing the milk supply of the district. Premature birth and debility from birth form the other chief factors in the high death rate. The causes of these are obvious, and increased knowledge and care on the part of the parents are necessary to bring about an improvement."

*Factories and Workshops.*—The number on the register was seventy-six, of which twenty are factories and fifty-six workshops. These, with one exception, were found to be in a satisfactory condition, and the matter complained of in the exception mentioned—defective sanitary accommodation—was remedied after the service of a written notice.

*Dairies, Cowsheds, and Milkshops.*—The number on the register is not stated. Periodical inspection by the medical officer and sanitary inspector was carried out; no written notices were sent out, but verbal instructions to the occupier were given where the need for limewashing and cleansing was found to exist. The structural condition of cowsheds is not mentioned, but the report states that they were found "in good order."

*Slaughter Houses.*—The seven slaughter houses in the district are stated to have been inspected from time to time, and the result of these inspections has been to again show the necessity for the adoption of bye-laws for the regulation, etc., of these premises. The failure to make bye-laws for the regulation of slaughter houses is a contravention of Sec. 128 of the Towns Improvement Clauses Act 1847 as incorporated with Sec. 169 of the Public Health Act 1875.

The report of the sanitary inspector, which was appended, states that the cost of scavenging for the year averaged 1s. 3½d. per head of the population. The cost per house per annum for each district was as follows:—Earsdon 6s. 8½d., Holywell 5s. 8d., Backworth 5s. 2¾d., and Murton 7s. 7d. For scavenging purposes the district was divided into fourteen sections, each being let to a contractor by tender. It was again recorded that considerable difficulty had been experienced in obtaining that efficiency in carrying out the work which is so desirable from a health point of view and, in the case of one contractor, the work was so unsatisfactorily performed that the council were obliged to terminate the contract. The desirability of the council carrying out all scavenging operations by their own staff has been discussed from time to time, but hitherto the suggestion has not been adopted, though some members of the Local Authority are strongly in favour of such a course, being fully alive to the great importance of *regular* and *efficient* scavenging and to the difficulty which is almost universally experienced in getting this work carried out satisfactorily under contract. A neighbouring Authority has, for a considerable time, scavenged a large portion of their district (by men regularly employed for the purpose) and their experience, extending over four years, is that the work is done more regularly, more thoroughly *and at less cost* than it was ever carried out under the contract system.

*Improvements.*—Housing.—Thirty-one new houses (and one school) were erected during the year. The provision of earth closets, in preference to ashpits, was insisted upon by the council in the case of all new buildings.

Considerable activity was displayed in the making up of roads and streets as is evidenced by the following record of work carried out:—The completion of street works at Hartburn Terrace and Baxter's Buildings at a cost of £311; similar works at Brookland Terrace, Forsyth Street, Mafeking Terrace and Coronation Terrace at a cost of £425; the laying of cement footpaths along all the streets at Bates' Cottages; the macadamising of the roadway and the provision of a

paved footpath and channel at Railway Row, "C" Pit; the re-making of Church Pit Road for a distance of eight hundred and eighty yards; the widening and improvement of the road from Backworth Village to Killingworth and the provision and laying of two hundred yards of granite kerbing and three hundred yards of asphalt footpaths in other situations. It is also very satisfactory to learn that arrangements have been completed with the coal companies in this district for making good all their streets to the satisfaction of the council.

The water mains from the Newcastle and Gateshead Water Company were extended, during the year, at High Avenue, Charles Avenue, James Avenue, South Street, Wallace Terrace and Brookland Terrace, and thirty-two new services were laid. The average consumption of water per head per day, for domestic purposes, was 7.4 gallons, an increase of 0.3 gallons compared with the preceding year. The consumption varied from 9.6 gallons per head in the Earsdon sub-district to 5.5 in the Holywell district.

The main outfall sewer to the sea at Whitley was completed; the total length of the sewer is 5,532 yards and the cost has been £4,030. The following localities are now drained by the above sewer, viz., the parishes of Earsdon and Murton, Backworth Rows and village, West and East Holywell and the Old and West Allotment in the Tynemouth Rural District. Other improvements to the sewerage systems which were carried out include the relaying of the defective sewer at Hartburn Terrace, with the provision of three additional manholes and a flushing tank; the laying of an additional sewer at a cost of £61 for the new houses erected at South Street, Bertram Place and the fixing of ventilating shafts at the head of some of the previously existing sewers.

*Requirements.*—The improvement of the general housing conditions in several parts of the district, especially as regards back to back houses, tenement houses and others having no through ventilation, sleeping rooms with insufficient means of ventilation and lighting; general dampness of houses in many localities, frequently the result of defective spouting and insufficient means of surface drainage.

The closure of the village well at Holywell and the provision of a more suitable supply for the few remaining houses which still depend on this well for drinking water.

The substitution of water closets or earth closets for the many insanitary privy middens, in anything but a watertight condition, which exist in large numbers, is also a matter requiring attention.

The abolition of surface channels, except for road water, and the laying of proper drains with trapped gullies.

An improved system of scavenging, preferably carried out by the council's own workmen under the direct supervision of their officials.

A greatly improved method of dealing with sewage at the disposal works near Holywell village so as to prevent the gross pollution of the Seaton Burn.

The condition of many of the roads, especially of those adjoining the colliery houses, is such as to require the continued attention of the council.

The drafting of bye-laws regulating slaughter houses and the prevention of nuisances from the keeping of animals.

The provision of a steam disinfecter at the Isolation Hospital.

\* 1911 when the deaths of two non-residents which occurred within the district are deducted, and the death of one resident which occurred outside the district is added.

#### GOSFORTH.

Medical Officer of Health, W. GALBRAITH, L.R.C.P., L.R.C.S.

Area, 1,303 acres; estimated population, 15,000; birth rate, 24.46; general death rate, \*17.33; zymotic death rate, 0.86; infant mortality rate (per 1,000 births), 108.99; Phthisis death rate, 1.00; death rate from respiratory disease, 0.93.



When compared with the corresponding rates for the preceding year, the infant mortality and Phthisis death rates show respective increases of 6.69 and 0.36; the remaining rates have decreased as follows:—Birth rate, 3.46; general rate, 2.75; zymotic death rate, 0.21, and respiratory death rate, 0.85.

Three hundred and sixty-seven births were registered during the year, and two hundred and sixty deaths, of which one hundred and thirty-one were of non-residents occurring in public institutions in the district, leaving one hundred and twenty-nine on which the nett death rate is calculated; of the latter forty were of children under one year, and thirty of persons sixty-five years and upwards.

Sixty-eight cases of infectious disease were notified as follows:—Diphtheria and Membranous croup, 37; Scarlet fever, 18; Enteric fever, 7; Erysipelas 6.

Thirteen deaths occurred from zymotic disease, viz:—Whooping cough, 5; Diarrhœa, 4; Diphtheria and Membranous croup, 3; Enteric fever, 1.

Phthisis caused 15 deaths; respiratory diseases, 14; heart diseases, 15; accident, 1; premature birth, 8.

The general death rate was the lowest recorded in the administrative county in the year under consideration; the infant mortality rate and the respiratory death rate were each the third lowest among urban districts.

The medical officer calls particular attention to the decline in the birth rate. With an estimated increase of at least 1,000 in the population, the births registered numbered twenty-four less than in the previous year.

The general death rate was the lowest recorded during the past twenty years. It may, however, be, year by year, apparently lower than actually is the case, since the medical officer receives no intimation of the deaths in various public institutions outside the district and is, therefore, unable to include them when calculating the general death rate. An interesting feature in connection with the age periods at which deaths occurred is that nine persons died between the ages of 80 and 90 and thirteen between 70 and 80.

With regard to the cases of Diphtheria, all of which were visited by the medical officer, it is pointed out that, in the majority of cases, the drains on inspection were found to be defective. The difficulty in the diagnosis of this disease and the danger of its spread by persons apparently suffering from simple sore throat are discussed by the medical officer, who arrives at the following conclusion:—"In any case where suspicion exists, the only safe way is to submit a swab, taken from the throat of the suspect, to bacteriological examination and, if suspicion is confirmed, strict isolation of the patient and contacts should be enforced."

*Vaccination and Small-pox.*—In commenting upon the increased facilities now afforded to parents for obtaining exemption for their children from vaccination, the medical officer expresses the fear that the increasing number of unprotected persons will materially conduce to a serious outbreak of Small-pox at no very distant date, and condemns the practice of enclosing exemption applications with vaccination forms as actually inviting an application for exemption.

The report states that, during the last ten years, one hundred and eight deaths from Phthisis have taken place in the district, and recommends the voluntary notification of this disease, the provision of treatment in a sanatorium and the isolation of patients in the early stages, as being of supreme importance, both to the persons suffering from Phthisis and to the general public.

*Schools.*—In alluding to the recently inaugurated medical inspection of children attending the five public elementary schools in this district, the medical officer emphasises the necessity of supplementing inspection by measures to ensure amelioration of defects found to exist. He will, therefore, doubtless approve of the action taken by the Northumberland Education Authority for securing as far as possible that proper treatment is obtained by parents for all serious defects discovered in their children.

*Cowsheds.*—The register shows that there are seven cowkeepers in the district and the number of dairy cows kept is one hundred and fifteen. The report states that, generally, the premises have been kept in a sanitary condition. In two cases notices requiring limewashing, and in one case requiring the paving of the yard were served and these were complied with.

*Slaughter Houses.*—Six premises were on the register and were found to comply with the bye-laws as regards cleanliness, though some are reported to be structurally unsuitable. Four of these premises, which have been established since the passing of the Public Health Act 1875 should, as the report states, be licensed.

*Factories and Workshops.*—The register contained, besides six factories, twenty-four workshops at the close of the year, an increase of five workshops compared with the preceding year, but still a surprisingly low number for a town of fifteen thousand inhabitants, if the register is complete. Thirty-nine inspections were made and three defects in workshops and one in factories were discovered and remedied. No outworkers' lists were received.

*Improvements.*—During the year under review, plans for the erection of sixty houses were passed. Fifty-six new houses were completed and forty-seven were in course of erection at the end of the year.

The mains of the Newcastle and Gateshead Water Company were extended for about 1,250 yards.

Tenders were invited by advertisement, in December, for new storm water drains for the whole district, also for relaying the trunk sewer at the bottom of Church Road and for relaying the existing sewer from St. Nicholas' Church, over Grove Road, Moor Road and Moor Crescent, to the Grand Stand.

The report of the inspector of nuisances, which was appended, shows a most praiseworthy activity in the removal of nuisances and other defective sanitary conditions. Two hundred and twenty-eight notices were served and the structural works carried out in compliance therewith include the following:—Nearly fifteen hundred yards of old drains taken up and over sixteen hundred yards of new drains laid; one hundred and thirty-one ashpits and thirty-nine privies removed and seventy-eight w.c.'s substituted and whenever w.c.'s were found defective, they were replaced by those on improved principles. Effect was given to the previous recommendation of the medical officer that systematic inspection of drains should be made and the results recorded; this was carried out in the case of one hundred and ninety houses, and more than five hundred tests by water or smoke were applied.

The value of the medical officer's annual report was considerably increased by the inclusion of the various forms required by the Local Government Board and Home Office.

*Requirements.*—An improved system of refuse disposal and of scavenging is much to be desired in this district, where refuse is removed by contractors and sometimes in uncovered carts. Neither the above method of scavenging nor the disposal of refuse by tipping in the neighbourhood of dwelling-houses can be considered at all satisfactory, especially in a district which is so largely residential in character. From



the sanitary inspector's report it appears that over thirteen thousand loads of refuse were removed, that five thousand and forty-eight loads were tipped, and the remainder deposited on farms and gardens as manure. The above methods of refuse disposal are eminently unsuitable for such a residential district of increasing rateable value and, until a refuse destructor is provided and the present method discarded, the latter can only be regarded as a potential source of nuisance and may bring about conditions dangerous to health.

The work of removing foul ash-pits and the substitution of w.c.'s requires to be actively continued.

The provision of a steam disinfecter, though stated to be imminent, was still an unfulfilled, though much needed, requirement.

\* 8.6 if the deaths of 131 non-residents occurring in public institutions situate in the district be deducted.

#### HEXHAM.

Medical Officer of Health, D. JACKSON, M.D.

Area, 5,149 acres; estimated population, 8,500; birth rate, 24.82; general death rate, \*15.88; zymotic death rate, 1.17; infant mortality rate (per 1,000 births), 180.09; Phthisis death rate, 1.17; death rate from respiratory diseases, 2.35.

With the exception of the Phthisis death rate, which decreased, in comparison with the previous year, by 1.01, all the above rates have increased as follows:—Birth rate, 0.34; general death rate, 0.99; zymotic death rate, 0.45; infant mortality rate, 95.94, and the respiratory death rate 0.29.

Two hundred and eleven births were registered during the year and one hundred and thirty-five deaths; of the latter thirty-eight were of children under one year, and thirty-nine of persons sixty-five years and upwards.

Forty-eight cases of infectious disease were notified as follows:—Diphtheria and Membranous croup, 15; Erysipelas, 5; Scarlet fever, 8; Enteric fever, 1; Measles, 6; Whooping cough, 10, and Phthisis 3.

Ten deaths occurred from zymotic disease, viz:—Whooping cough, 2; Diphtheria and Membranous croup, 3; Diarrhoea, 5.

Phthisis caused 10 deaths; respiratory diseases, 20; heart diseases, 19; accidents, 2; premature birth, 10.

There was a marked reduction in the cases of notifiable disease which, excluding Measles, Whooping cough and Phthisis, numbered twenty-nine as compared with forty-eight during the previous year; or including the above-named diseases which are notifiable in this district, the cases notified during 1908 numbered forty-eight and during 1907, ninety-seven.

The medical officer, in discussing the high infant mortality rate, which was more than double that of the previous year, points out that, of the thirty-eight infant deaths, twenty-seven occurred in the two localities in which the general sanitary surroundings are far from ideal.

The Phthisis death rate, which was the highest in the administrative county in the year 1906 and second highest in 1907, shows an appreciable reduction for the year under review, but is still higher than the average for the urban districts during the above named years. The probability of the spread of this disease by the agency of milk supplies is dealt with and the following advice given:—"It behoves the dairy-keepers and all sellers of milk, as well as those who use it, to pay every attention to cleanliness with everything connected with the milk,—the udders and the teats of the cattle, the hands of the milkers, the cleanliness of the byres, and the condition of the vessels for the carrying and keeping of milk." Alluding to the fact that Hexham does not appear to have benefited as regards the reduction of Phthisis to the same extent as sewered towns generally, the medical officer states:—

"This is not due to any defect in the sewers themselves, but is mainly attributable to the structural condition of portions of the older parts of the town, in which you have a number of houses without through ventilation, placed in narrow yards, in some cases with the soil abutting against the blank wall, causing dampness, having little light and less sunshine and in these houses and other tenemented property, permitting overcrowding."

*Factories and Workshops.*—The register contained sixty-five workshops, of which twelve were bakehouses. The factories numbered nineteen; eighty-four visits of inspection were made. The report states that all were found to be in a satisfactory condition and no written notices were required. Six outworkers lists were received containing the names of sixteen outworkers, engaged in the following trades:—Making of wearing apparel, eight; feather sorting, four; making of furniture and upholstery, four.

*Dairies and Cowsheds.*—The number of dairies, cowsheds and milkshops on the register is not given, but the medical officer refers to their improved condition and states that "the various parties concerned evince a keener interest in their work, realise their responsibility and desire to have their business carefully and efficiently conducted."

*Common Lodging Houses and Slaughter Houses.*—Reference to these important branches of public health administration was entirely omitted from the report.

*Improvements.*—The extension of water mains carried out during the year included the laying of eleven hundred feet of two-inch and three-inch pipes. Several new connections were also made and old services renewed.

The following improvements to streets were carried out:—Footpaths at Market Street, Church Row and the Seal were relaid with tar macadam in place of defective paving; the Dipton and Plover Hill Roads were improved and taken over by the council; Haugh Lane was widened and "made up."

Twenty-six new houses were certified as fit for habitation during the year, making a total of three hundred and eighty additional houses since the census of 1901.

The inverts to the culverts of the Gilesgate and Cockshaw runners were cemented and the former one covered in for a distance of two hundred and sixty feet.

The surveyor's report states that three hundred and seventy minor sanitary defects were discovered and remedied; the details of these, however, were not given.

*Requirements.*—There is still considerable room for improvement in the structural condition of the back-to-back houses and tenemented property generally, the drawbacks of which are given above under the remarks, relative to the mortality from Phthisis, in the medical officer's own words.

The condition of the surface well at Lowgate calls for attention, as, owing to the fact that it is only partially enclosed, it may readily become contaminated and a source of danger.

Abatement of the nuisance caused by the cattle sales being held in the main street, concerning which, the medical officer remarks as follows:—

"I fail to understand why such a serious nuisance to those living in Priestpopple Street should be continued, and such a danger to the general public should be sanctioned. No one can visit Priestpopple on sale days without being struck by the congested state of the street, the filthy condition, not only of the market itself, but the public street, extending to the footpath on the opposite side of the street



“from the Market stand. What of the inhabitants where the cattle stand within a few feet of their doors and windows; a class of house unfortunately, not too well ventilated where, not only on the market days, but the day following, you smell the cattle and cattle dung in the kitchen where they are cooking their food, and in the bedrooms upstairs where you have the children, who are compelled to breathe this polluted atmosphere several days and nights each week for a certain portion of the year?”

The medical officer also refers to the nuisance arising from vans, shows, and other erections allowed in the Market Place, “which,” he maintains, “cannot fail to be a nuisance to the residents, and their very imperfect or total want of sanitary arrangements must endanger the public health. The inhabitants of the Market Place have just cause of complaint, fully justifying their memorial to the council some years ago.”

\* 15·17 if six deaths of non-residents occurring within the district be deducted.

#### NEWBIGGIN-BY-THE-SEA.

Medical Officer of Health, H. HART-JACKSON, M.R.C.S., L.R.C.P.

Area, 351 acres; estimated population, 2,600; birth rate, 32·3; general death rate, \*16·92; zymotic death rate, 1·15; infant mortality rate (per 1,000 births), 214·28; Phthisis death rate, 0·76; death rate from respiratory diseases, 1·15.

When compared with the rates for the previous year the Phthisis death rate shows a decrease of 0·77; the respiratory death rate is unchanged, and the remaining rates have increased as follows:—Birth rate by 5·77, general death rate 7·27, zymotic death rate 0·39 and the infant mortality rate 141·82.

Eighty-four births were registered during the year and forty-four deaths; of the latter eighteen were of children under one year, and twelve of persons sixty-five years and upwards.

One case of infectious disease was notified, viz., Diphtheria.

Three deaths occurred from zymotic disease, viz., from Whooping cough.

Phthisis caused 2 deaths; respiratory diseases, 3; heart diseases, 4; premature birth, 1.

In only two instances (the borough of Morpeth and the urban district of Earsdon) was a higher infant mortality recorded in the administrative county during the year under review. On the other hand, among urban districts, a lower Phthisis death rate was recorded in two instances only (Amble and Willington Quay).

Population.—This is estimated to be the same for the year under review as for the previous year, though twenty-four new houses were erected.

Infant Mortality.—Of the eighty-four children born during the year, eighteen—nearly a fourth—died within the first twelve months, and of these, ten died within the first month.

*Slaughter Houses and Cowsheds.*—The number of the above premises on the register and of the inspections made is not stated, nor are the defects found or remedied alluded to. It is satisfactory to note that regulations under the Dairies, Cowsheds and Milkshops Orders have been adopted and are now in force.

*Factories and Workshops.*—There are two factories in the district, both of which were inspected. The number of inspections is not given. No mention is made of defects found or remedied.

*Improvements.*—Twenty-four new houses were built and, in a few cases, existing houses were improved. One privy ashpit—in Vernon Place—was demolished and an earth closet provided.

New sewers were laid in the Bower Riggs Estate, and the following street improvements were carried out:—New roads made and footpaths provided at Bower Riggs; improvements to footpaths and channels in Woodhorn Lane; the laying of further tar macadam and flag paving in Front Street and the laying of a concrete roadway to the beach.

An extension of the burial ground was carried out.

During the year under review the Local Government Board confirmed bye-laws relating to the following subjects:—New street and buildings, Slaughter houses, Prevention of Nuisances, etc., and Cleansing of Footpaths and removal of house refuse, etc.

*Requirements.*—As regards housing conditions, the medical officer states:—“The house accommodation has increased considerably, but, at the same time, owing to the colliery and building operations a shortage of suitable small houses is likely to arise in the near future. There still remains a large number of the older houses with no through ventilation and certain obstructive buildings in Sea View and Watt’s Lane.” The council’s attention has been called to the last mentioned conditions in previous reports. Many alterations are desirable in the housing conditions, *e.g.*, increased facilities for ventilation, especially in upstairs rooms, and more particularly in houses having no through ventilation.

The necessity for providing an adequate supply of water has been emphasised for many years in every annual report and the medical officer alluding to the above states that “during the summer, owing to the dry weather, there was a distinct scarcity of water, the pumps having to be locked to allow the wells to recover. During October, owing to mining operations on the Moor, the supply from the well in the centre of the village altogether failed. I am certain that as the work proceeds at the new mine, the present supply will cease.”

It is, therefore, evident that the warnings given, from year to year, as to the most unsatisfactory water supply for this district, have been fully justified. The serious inconvenience which has been experienced, for some time, by the inhabitants, as well as the dangers from a public health point of view which always accompany an insufficient supply of water must always be a formidable drawback to the development of the town as a health resort. It is also probable that the extremely high infantile mortality rate which is recorded has been prejudicially influenced by the scarcity of water, and it is claimed by the local authority that many of the insanitary conditions (privy middens, blocked drains, etc.) which undoubtedly influence this rate, cannot be effectually dealt with until an increased water supply is obtained.

In addition to the number of insanitary privy ashpits to be found, the system of scavenging—by contract—again proved unsatisfactory, and numerous complaints were received. Scavenging by contract nearly always necessitates such an amount of supervision by the sanitary inspector as to seriously interfere with his other duties, and it has been proved that this work can be carried out by a sanitary authority more regularly, more satisfactorily and also more economically than under the contract system. The scavenging of privy ashpits during the day time, the removal of their contents in uncovered carts and the tipping of the refuse in proximity to houses are not measures of which any town, posing as a health resort, can be proud.

The abolition of many foul privy ashpits, “several of them very wet and offensive at times” is a long delayed requirement still unfulfilled, the urgency of which increases with each successive year.

The provision of sanitary conveniences for houses either entirely unprovided, or inadequately supplied with the above.

The relaying of some of the drains; increased ventilation and flushing of sewers. The reconstruction of a great many of the privy ashpits.



Some of the ashpits are not constructed, lined or floored with impervious material; others receive the rain water from adjacent buildings; some are built on to the walls of dwelling houses. Some of the privies are in a dilapidated condition and, in many, the risers are constructed of wood (which greatly increases the nuisance inherent in all privy middens) and this defect is noticeable even for houses recently constructed.

The medical officer also calls attention to the unsatisfactory condition of the drains, out-offices and yard of the Infants' School.

\* 16.5 if one death of a stranger occurring within the district be deducted.

#### NEWBURN.

Medical Officer of Health, A. W. MESSER, M.B., C.M., B.Sc.

Area, 4,673 acres; estimated population, 15,747; birth rate, 39.37; general death rate, 15.49; zymotic death rate, 2.47; infant mortality rate (per 1,000 births), 141.95; Phthisis death rate, 0.95; death rate from respiratory diseases, 2.09.

With the exception of the respiratory death rate, which has decreased by 0.34, all the above rates have, as compared with those for the previous year, increased as follows:—Birth rate, 4.22; general death rate, 3.27; zymotic death rate, 0.5; infant mortality rate, 48.5; Phthisis death rate, 0.1.

Six hundred and twenty births were registered during the year and two hundred and forty-four deaths; of the latter eighty-eight were of children under one year, and thirty-seven of persons sixty-five years and upwards.

One hundred and six cases of infectious disease were notified as follows: Diphtheria and Membranous croup, 57; Scarlet fever, 25; Enteric fever, 12; Erysipelas, 11; Puerperal fever, 1.

Thirty-nine deaths occurred from zymotic disease, viz.:—Diarrhœa, 20; Whooping cough, 13; Diphtheria and Membranous croup, 3; Measles, 2; Enteric fever, 1.

Phthisis caused 15 deaths; respiratory diseases, 33; heart diseases, 22; accidents, 9; premature birth, 15.

The death rate from zymotic diseases was the second highest in the administrative county, and the birth rate the third highest.

The medical officer divides his district, as usual, into seven sub-districts and the following table contains statistical information relating to the sub-divisions of the urban district.

| Sub-districts. | Popu-<br>lation. | Births. |                          | Deaths. |                          | Infant<br>deaths. |                              | Zymotic<br>deaths. |                          | Infectious<br>diseases. |                                 |
|----------------|------------------|---------|--------------------------|---------|--------------------------|-------------------|------------------------------|--------------------|--------------------------|-------------------------|---------------------------------|
|                |                  | No.     | Rate<br>per 1000<br>pop. | No.     | Rate<br>per 1000<br>pop. | No.               | Rate<br>per 1,000<br>births. | No.                | Rate<br>per 1000<br>pop. | No.<br>notified.        | Attack<br>rate per<br>1000 pop. |
| Newburn ...    | 4,107            | 196     | 47.7                     | 77      | 18.7                     | 27                | 137.7                        | 9                  | 2.1                      | 26                      | 6.3                             |
| Newburn Hall   | 4,133            | 140     | 33.8                     | 43      | 10.4                     | 18                | 128.5                        | 11                 | 2.6                      | 23                      | 5.5                             |
| Throckley ...  | 2,476            | 64      | 25.8                     | 36      | 14.5                     | 15                | 234.3                        | 5                  | 2.0                      | 25                      | 10.0                            |
| Walbottle ...  | 2,397            | 90      | 37.9                     | 40      | 16.6                     | 10                | 111.1                        | 5                  | 2.0                      | 16                      | 6.6                             |
| East Denton    | 1,689            | 105     | 62.1                     | 39      | 23.0                     | 16                | 152.3                        | 6                  | 3.5                      | 12                      | 7.1                             |
| West Denton    | 692              | 21      | 30.3                     | 5       | 7.2                      | —                 | —                            | 2                  | 2.8                      | 2                       | 2.8                             |
| Sugley ...     | 253              | 4       | 15.7                     | 4       | 15.8                     | 2                 | 500.0                        | 1                  | 3.9                      | 2                       | 7.8                             |
| Whole district | 15,747           | 620     | 39.37                    | 244     | 15.49                    | 88                | 141.95                       | 39                 | 2.4                      | 106                     | 6.7                             |

It will be seen from the above table that there was great variation in the rates calculated for the various sub-divisions, thus, the birth rate was, as during the previous year, lowest (15.7) in Sugley and, as

also during the years 1906 and 1907, highest (62.1) in East Denton, while, in the remaining sub-districts it ranged from 25.8 to 47.7 per thousand population. The general death rate was lowest (7.2) in West Denton and highest (23.0) in East Denton. In the remaining sub-districts the rate was below 15 per thousand population in Newburn Hall and Throckley and above 15 per thousand in Newburn, Walbottle and Sugley.

Infant Mortality.—The deaths under one year numbered thirty-eight more than during 1907. Excluding Sugley, where only four births occurred during the year, the infant mortality rate was highest (234.3 per 1,000 births) in Throckley, and lowest (111.1) in Walbottle. In East Denton, Newburn and Newburn Hall the rates were 152.3, 137.7 and 128.5 respectively. Taking the whole district, the deaths under one year are equal to more than one third of the total deaths at all ages.

When on the subject of infant mortality, the medical officer lays great stress upon the fact that conditions which bring about a high infant mortality rate necessarily imply a serious injury to the infants that do not die, those who *just fail* to succumb but who are reared in a state of hopeless malnutrition, resulting in the development of Rickets. The latter disease is responsible, in infancy and childhood, for a large proportion of the cases of convulsions, adenoids, deformities of bones, including the chest walls and, later, of pulmonary tuberculosis (Phthisis or Consumption) and injuries to the nervous system resulting, in some cases, in enfeeblement of mind and insanity.

The medical officer goes on to point out that the chief cause of malnutrition in infants is the ignorance of the mothers, resulting in the child being deprived of its proper nourishment and in its being supplied with food which it cannot assimilate, resulting in a condition of semi-starvation and, too frequently, in death; he also recommends the adoption of the Notification of Births Act and its natural corollary, the appointment of a Health Visitor, as being the most practical means for lessening the vast amount of preventable sickness and mortality among infants, "much of which most excellent work could be done in the district at the maximum cost of £60 in a half year."

The attack rate from infectious diseases was highest (10 per 1,000 population) in Throckley, and lowest, (2.8) in West Denton.

As regards the one hundred and six cases of infectious disease notified (a reduction of forty-nine compared with the previous year) Sugley alone was free from Diphtheria, and West Denton was alone free from Scarlet fever.

The twelve cases of Enteric fever occurred as follows:—In Newburn Hall, eight cases; in East Denton, three and in Walbottle, one case.

Seventy-five per cent. of the cases above mentioned were treated in hospital. The medical officer, who is an enthusiast in all matters connected with public health, with the raising of the submerged tenth and with improving the social and physical condition and the moral tone of the population generally, finds much cause for regret in reviewing the mortality rates and the insalubrious surroundings of many of the inhabitants of his district whose "life fed upon bad air, overcrowded at home, deprived of wholesome recreation, and passed amid ugly and dirty surroundings has little chance of moral or physical health." He reviews the different causes affecting the marriage and birth rates from the early days of the Greeks and Romans and indicates how the demand for labour, arising in this urban district from the development of mining and other industries, has been instrumental in preserving the marriage and birth rates from such falling off as is noticeable throughout the country generally, as well as among nearly all European nations.

The birth rate was higher, by 1.11, than the average for the previous



ten years and the general death rate, though higher than during the previous year, was 0.62 lower than the average for the ten years 1898-1907.

*Deaths from Phthisis and other forms of Tuberculosis.*—These indicated an upward tendency, and the medical officer draws attention to the connection existing between cases of the above disease and the occupation of the oldest and least sanitary property.

*Factories and Workshops.*—These were all inspected and they are all stated to be “apparently up to the standard in sanitary requirements;” no cases of overcrowding were noted. The number of workshops on the register is not stated in the report.

*Dairies and Cowsheds.*—There were twenty-three cowkeepers in this district, all of whom were registered. Systematic inspection of these premises was carried out and the standard of cleanliness is stated to have been raised considerably during recent years, though the water supply, lighting and the methods of storing manure were, in some cases, still most unsatisfactory.

*Slaughter Houses.*—Eleven private slaughter houses were on the register and all were inspected from time to time. The cleansing of these premises immediately after slaughtering, the frequent removal of garbage and the cleanliness of the receptacles provided for its temporary storage were desiderata which, in many cases, were neglected by the various occupiers.

*Improvements.*—Much was accomplished towards improving the housing accommodation in this district during the year under review. Some of the oldest houses were closed, many others were considerably improved and additional accommodation was provided by the erection of new houses in several parts of the district, though the sanitary conveniences provided for many of the new houses leaves much to be desired.

*Water Supply.*—This is derived from the Newcastle and Gateshead Water Company, whose mains were extended upwards of 1,000 yards in this district during the year. It is satisfactory to note that, in the case of new houses, separate taps for each house were provided.

*Sewerage and Drainage.*—In consequence of complaints as to sewer gas escaping from manholes in different parts of the district, many of these were sealed up and ventilating shafts erected.

*Requirements.*—The provision of more houses for the weekly wage class, the demolition of houses unfit for human habitation, improved ventilation in many of the older houses, the more general adoption of the water carriage system for excrement disposal and of remedial measures in the case of many damp houses, also the discontinuance of overcrowding, appear to be the chief requirements of this district from a sanitary point of view.

Improved water supplies for some of the houses in the outlying parts of the district, *e.g.*, Dewley Mill; Black Row, Throckley; and the Winnings; also, improvements in the distribution of water at Denton Square, Denton Wood Row and Stone Row, Cross Row, Newburn Hall; High Row, Lemington; Water Row, Newburn; Duke Pit and School Bank, Walbottle and several of the older rows at Throckley.

The adoption of improved regulations with regard to Dairies, Cowsheds and Milkshops and the enforcement of these extended provisions.

A strict enforcement of the bye-laws relating to slaughter houses.

The adoption of suitable measures for remedying the pollution of water courses which takes place in various parts of the district.

The installation of an improved system of refuse disposal, preferably by means of a modern refuse destructor.

The provision of additional houses is perhaps the most urgent requirement in the above list, for without increased housing accommodation, it is difficult either to prevent overcrowding or to make extensive structural alterations in houses already occupied. The need for additional houses has long been admitted; private enterprise has, hitherto, failed to meet this requirement. The sanitary authority has power, under the Housing of the Working Classes Acts to supply the need, and more than one scheme has been considered, but hitherto without any result.

The adoption of the Notification of Births Act and the appointment of a Lady Health Visitor.—Probably in no urban district in the county is there greater scope for the influence of such an official.

#### ROTHBURY.

Medical Officer of Health, F. BARROW, M.R.C.S., L.S.A.

Area, 970 acres; estimated population, 1,300; birth rate, 13.07; general death rate, \*22.30; zymotic death rate, nil; infant mortality rate (per 1,000 births), nil; Phthisis death rate, 0.76; death rate from respiratory diseases, nil.

A comparison of the above rates with the corresponding rates for the preceding year shows that no change has occurred in the zymotic death rate, that the general death rate has increased by 0.6, and that the remaining rates have decreased as follows:—Birth rate 5.53, infant mortality rate 80.00, Phthisis death rate 0.73 and respiratory death rate 2.98.

Seventeen births were registered during the year and twenty-nine deaths; of the latter none were of children under one year, but twelve were of persons sixty-five years and upwards.

Seven cases of infectious disease were notified as follows:—Erysipelas, 6; Diphtheria and Membranous croup, 1.

No deaths occurred from zymotic disease.

Phthisis caused one death; respiratory diseases, none; heart diseases, five; accident one.

In only two urban districts (Amble and Willington Quay) was the Phthisis death rate lower than in this district; the birth rate was the lowest recorded in the administrative county during the year under review.

In commenting upon the exceedingly low birth rate, the medical officer is of opinion that this is considerably influenced by the fact that a good many of the young married people have been obliged to leave the district and seek work elsewhere owing to want of employment.

For the third consecutive year, no deaths from zymotic disease were recorded, whilst another most unusual feature for an urban district is the absence of any death, within the first year, of any of the children born.

Influenza was prevalent amongst children during the month of February, and Whooping cough assumed epidemic proportions during the latter part of the year. In the former case the schools were closed for one week and, in the latter, for six weeks.

With a view to controlling the spread of Phthisis, the following precautionary measures were adopted:—Personal visits, by the Medical Officer of Health, to infected houses and instruction of the inmates as regards the preventive measures which should be taken; the distribution of leaflets to patients and their friends and the co-operation of medical practitioners invited; the disinfection and thorough cleansing of infected rooms after a death from this disease.

*Factories and Workshops.*—Twenty-one workshops were on the register at the close of the year, two new workshops having been added and two



closed and struck off. A corresponding number of inspections were made; one contravention of the Act was met with and a promise given that it should be remedied. No mention of factories is made in the report.

*Dairies and Cowsheds.*—The number on the register is not given, though the report states that three cowkeepers had given up business. The number of inspections made is not given, but it is stated that all were inspected and found to be in a satisfactory condition.

*Slaughter Houses.*—One newly erected slaughter house was added to the register during the year, making four in all; the medical officer states that “all were kept clean and tidy.”

*Improvements.*—An improved water supply for the higher parts of the village (north and west) was successfully inaugurated during the year under review. By means of a petrol engine, the water from good springs by the riverside is pumped to a tank on the top of Rothbury Hill, from whence it is supplied through iron pipes by gravitation. The ordinary village supply is stated to be good and ample.

Among other improvements which were carried out during the year, the following may be mentioned:—The closure of a house reported by the Medical Officer of Health to be unfit for human habitation; the provision of new lavatories and w.c.'s at the Cottage Hospital and at the Higher Grade Schools; sanitary and other improvements at Bridge End (old Boys') School; the removal of the Higher Grade School to greatly improved premises at what was the Girls' (Elementary) School; the laying of sewers or drains for houses at Moorside, Whinbank, Addycomb Villa, Heatherlea and Storey's Cottages, these supplying a long-felt need; improvements in existing drains in three instances and the abolition of one defective privy, a water closet being substituted. The Local Government Board sanctioned the loan of a sum of £5,250, the chief part repayable in 30 years, for a scheme of sewerage and sewage disposal.

*Requirements.*—The abolition of faulty privy ashpits, more especially those in the Market Place, and the substitution of water closets.

The adoption of a more satisfactory method of sewage disposal and the improvement of the sewerage system.

*Rainfall, etc.*—The medical officer includes in his report a record of the rainfall of this district which shows that the total for the year was 30.96 inches, as against 34.12 inches for the previous year and an average for the previous ten years of 38.62 inches. One hundred and eighty-five “wet days” and one thousand four hundred and fourteen hours of sunshine were recorded, the latter being twenty-nine below the number recorded in 1907.

\* 20.00 if the deaths of three non-residents, which occurred in the district, are deducted.

SEGHILL.

Medical Officer of Health, ROBT. ANDERSON, M.D.

Area, 1,425 acres; estimated population 2,220; birth rate, 25.22; general death rate, \*14.41; zymotic death rate, 0.90; infant mortality rate (per 1,000 births), 214.28; Phthisis death rate, 0.90; death rate from respiratory diseases, 2.70.

When compared with the corresponding rates for the preceding year, each of the above rates, with the exception of the zymotic death rate which has remained stationary, shows an increase as follows:—Birth rate, 2.70; general death rate, 1.8; infant mortality rate, 14.28; Phthisis death rate, 0.90 and respiratory death rate, 1.60.

Fifty-six births were registered during the year and thirty-two deaths; of the latter, twelve were of children under one year, and one of a person over sixty-five years.

Four cases of infectious disease were notified as follows:—Scarlet fever, 3; Erysipelas, 1.

Two deaths occurred from zymotic disease, both being from Diarrhœa.

Phthisis caused 2 deaths; respiratory diseases, 7; heart diseases, 6 and premature birth, 6.

The complete immunity from all cases of notifiable infectious disease which was so extraordinary in this mining urban district during the three previous years, cannot, unfortunately, be chronicled for the year under review, as four cases of infectious disease were notified.

The most notable feature in the medical officer's report is a material rise in the infantile mortality rate which, during the last ten years, has averaged 209.2 and, during the year 1908, reached 214.28 per 1,000 births, a rate which was exceeded in only two sanitary districts (the borough of Morpeth and the urban district of Earsdon) in the administrative county; in 1906 and 1907 the infant mortality rate was higher than in any other sanitary district.

No factories or workshops are registered in the district. The Act imposes upon every council the obligation to keep a register of all workshops within their area.

No allusion is made, in the report, to slaughter houses, dairies or cowsheds.

*Improvements.*—A sewage disposal scheme for the whole district was completed by the provision of further works similar to those referred to in detail in the previous annual report. The whole of the sewage from the village is now treated on approved lines previous to its discharge into the Seaton Burn.

Frequent inspections of the district were made by the medical officer and the sanitary inspector, and the water supply, and scavenging, refuse disposal, etc., were found to be satisfactory.

*Requirements.*—The adoption of some measures to reduce the exceedingly high rate of infantile mortality which has now existed for a number of years.

The framing of bye-laws and the adoption of regulations under the Dairies, Cowsheds and Milkshops Order are among the unfulfilled requirements of this urban district. It is a noteworthy fact also that in this urban district no adoptive Acts are in force.

It is much to be regretted that the medical officer's annual report together with the forms provided by the Local Government Board and the Home Office were not printed and thus rendered available for the use of everyone interested in public health matters. Among urban districts the Seghill Council is the only one that does not print the medical officer's annual report, and only two other councils (Bellingham and Haltwhistle) in the administrative county fail in this direction.

\* 15.31 if the deaths of two residents, which occurred outside the district, are added.

#### WEETSLADE.

Medical Officer of Health, ALLAN WALKER, M.B., C.M.

Area, 2,198 acres; estimated population, 5,453; birth rate, 43.09; general death rate, 19.43; zymotic death rate, 1.10; infant mortality rate (per 1,000 births), 140.42; Phthisis death rate, 2.20; death rate from respiratory diseases, 1.83.

When compared with the rates for the preceding year the Phthisis death rate and respiratory death rate show decreases of 0.36 and 1.28



respectively; the remaining rates show increases as follows:—Birth rate, 3.67; general death rate, 1.46; zymotic death rate, 0.37 and infant mortality rate, 5.54.

Two hundred and thirty-five births were registered during the year and one hundred and six deaths; of the latter thirty-three were of children under one year, and twenty-three of persons sixty-five years and upwards.

Thirty-six cases of infectious disease were notified as follows:—Scarlet fever, 14; Diphtheria and Membranous croup, 11; Erysipelas, 9 and Enteric fever, 2.

Six deaths occurred from zymotic disease, viz., Diarrhœa 4, and Whooping cough 2.

Phthisis caused 12 deaths; respiratory diseases, 10; heart diseases, 17; accidents 2 and premature birth 5.

The birth rate was the highest and the general and Phthisis death rates were each the second highest recorded in the administrative county.

The birth rate is the highest recorded for the past fourteen years, though it must be remembered that it is estimated upon a population which is supposed to have remained stationary since the 1901 census, whereas the undoubted increase which has taken place in the population of this district would, if taken into consideration, reduce, not only the birth rate, but also the mortality rates, with the exception of the infant mortality rate, thus:—The population of Wideopen is given as 287, which was the number at the last census, but since the census was taken in 1901, sixty houses have been built at Hazelrigg, a part of this sub-district. Allowing five persons per house for each of the above, the population of the Wideopen sub-division must be, at least, double that estimated.

The following table gives some statistical information relating to the different sub-districts. If, however, the population of any sub-district is not correctly given, the rates in those districts will not be accurate.

| Sub-districts.     | Popu-<br>lation. | Births. |                          | Deaths. |                          | Infant<br>deaths. |                              | Infectious<br>diseases. |                                 |
|--------------------|------------------|---------|--------------------------|---------|--------------------------|-------------------|------------------------------|-------------------------|---------------------------------|
|                    |                  | No.     | Rate<br>per 1000<br>pop. | No.     | Rate<br>per 1000<br>pop. | No.               | Rate<br>per 1,000<br>births. | No.<br>notified.        | Attack<br>rate per<br>1000 pop. |
| Dudley ...         | 2628             | 101     | 38.4                     | 49      | 18.6                     | 16                | 158.4                        | 10                      | 3.8                             |
| Seaton Burn ...    | 1618             | 54      | 33.3                     | 28      | 17.3                     | 10                | 185.1                        | 21                      | 12.9                            |
| Annitsford ...     | 920              | 58      | 62.3                     | 21      | 22.8                     | 6                 | 103.4                        | 2                       | 2.1                             |
| Wide Open ...      | 287              | 22      | 76.6                     | 8       | 27.8                     | 1                 | 45.4                         | 3                       | 10.4                            |
| Whole district ... | 5453             | 235     | 43.09                    | 106     | 19.43                    | 33                | 140.42                       | 36                      | 6.60                            |

The amount of infectious disease notified in this district was, considering the conditions under which many of the inhabitants live, not great, and no deaths resulted from the 11 cases of Diphtheria, 14 of Scarlet fever, 9 of Erysipelas and 2 of Enteric fever notified. With a view to preventing the spread of infectious diseases, the medical officer again urges upon parents the importance of keeping their children from school for a longer period after suffering from any infectious disease.

It is reported that no factories or workshops exist in this district.

*Dairies and Cowsheds.*—The number on the register is not stated. The medical officer, as a result of his annual inspection of these premises remarks upon the desirability of more thorough cleanliness. "No attention appears to be paid to the ceilings, window bottoms and

"corners." Limewashing and removal of cobwebs was needed in all cases. After pointing out the need of greater cleanliness of dairy cows and the desirability of milkers using overalls and milking caps, the medical officer suggests that a set of "Milking Rules," giving instructions and advice as to how to proceed, should be drawn up and supplied to each cowkeeper.

*Slaughter Houses* are not mentioned in the report.

*Improvements.*—Increased housing accommodation was provided by the continuance of building operations at Hazelrigg, Dudley and Annitsford. A paved footpath was laid at Seaton Burn by the Colliery Company which, the medical officer remarks, "must prove a benefit to all, especially to children going to and from school."

Improved sanitary conveniences of the ash-closet type are gradually being introduced in lieu of the open and insanitary privy ashpits which are still too frequently met with in this district.

More than 2,000 yards of water mains were laid by the Newcastle and Gateshead Water Company during the year.

*Schools.*—Considerable improvements were effected at the Dudley and Seaton Burn schools which, the medical officer states, "must prove of great benefit to the scholars."

A scheme of sewerage and sewage disposal for the Wide Open and Coach Lane areas was in course of preparation during the year.

*Requirements.*—Paved footpaths in several streets not so provided, and the making up of several colliery roads, are urgently needed. The council are urged to press for the carrying out of the above mentioned work in all divisions of the district.

A more thorough and efficient method of scavenging is required. Several complaints were received, but there is little prospect of any great improvement being effected as long as the present system (by contractors) is continued, and until the work is taken over by the council and carried out under the direct supervision of their own officials.

An efficient system of sewage disposal for houses at Hazelrigg and Wideopen was an urgent requirement. The present method of dealing with sewage in the above-named district is the cause of a serious nuisance to the inhabitants of the adjacent houses and to the users of Coach Lane.

Measures should be taken to prevent the gross pollution of the Seaton Burn by the discharge of untreated sewage into it at various points.

Provision for the isolation of cases of infectious disease.—The medical officer points out that this district is the only urban district in the county which has no isolation hospital accommodation, and he again advises the council, as he has done previously, year after year, to make some suitable provision in this direction.

#### WHITLEY AND MONKSEATON.

Medical Officer of Health, J. PEEL SPARKS, M.D., B.S. (Durh.).

Area, 1,650 acres; estimated population, 14,500; birth rate, 19.58; general death rate, \*9.58; zymotic death rate, 0.41; infant mortality rate (per 1,000 births), 80.98; Phthisis death rate, 0.82; death rate from respiratory diseases, 0.89.

When compared with the rates for the preceding year, the zymotic death rate and the respiratory death rate show respective decreases of 0.01 and 0.46. The remaining rates have increased as follows:—Birth rate, 2.23; general death rate, 0.94; infant mortality rate, 27.94; and Phthisis death rate, 0.32.

Two hundred and eighty-four births were registered during the year and one hundred and thirty-nine deaths; of the latter twenty-three were



of children under one year, and thirty-nine of persons sixty-five years and upwards.

Thirty-nine cases of infectious disease were notified as follows:—Diphtheria and Membranous croup 23, Scarlet fever 10, Enteric fever 4 and Erysipelas 2. This is the smallest number of notifications recorded for this district during any year since 1900.

Six deaths occurred from zymotic disease, viz. :—Diarrhœa 3, Measles 2 and Enteric fever 1.

Phthisis caused 12 deaths; respiratory diseases, 13; heart diseases, 23; accidents 5 and premature birth, 5.

The general death rate was the second lowest recorded in the administrative county; the birth rate, the infant mortality rate, the zymotic death rate and the respiratory death rate were each the second lowest among urban districts in the county.

The medical officer divides his district into four localities. The following table gives information of considerable interest relating to the population, birth rates, the various mortality rates, the cases of infectious disease notified, and the attack rate of the latter per 1,000 population in the several sub-divisions.

| Sub-districts. | Popu-<br>lation. | Births. |                          | Deaths. |                          | Infant<br>deaths. |                          | Zymotic<br>deaths. |                          | Infectious<br>diseases. |                                 |
|----------------|------------------|---------|--------------------------|---------|--------------------------|-------------------|--------------------------|--------------------|--------------------------|-------------------------|---------------------------------|
|                |                  | No.     | Rate<br>per 1000<br>pop. | No.     | Rate<br>per 1000<br>pop. | No.               | Rate<br>per 1000<br>pop. | No.                | Rate<br>per 1000<br>pop. | No.<br>notified.        | Attack<br>rate per<br>1000 pop. |
| St. Mary's ..  | 5,600            | 90      | 16·0                     | 43      | 7·6                      | 6                 | 66·6                     | 2                  | 0·35                     | 16                      | 2·8                             |
| Marden ...     | 3,100            | 77      | 24·8                     | 40      | 12·9                     | 9                 | 116·8                    | 4                  | 1·29                     | 6                       | 1·9                             |
| Rockcliff ...  | 3,400            | 64      | 17·7                     | 36      | 10·5                     | 5                 | 78·1                     | —                  | —                        | 11                      | 3·2                             |
| Monkseaton...  | 2,400            | 53      | 22·0                     | 20      | 8·3                      | 3                 | 56·6                     | —                  | —                        | 6                       | 2·5                             |
| Whole district | 14,500           | 284     | 19·58                    | 139     | 9·58                     | 21                | 80·98                    | 6                  | 0·41                     | 39                      | 2·68                            |

The above table indicates that the birth rate was under eighteen per thousand in the Rockcliff and St. Mary's divisions and was twenty-two and twenty-four in the Monkseaton and Marden sub-districts respectively. The general death rate was under 8·5 in the Monkseaton and St. Mary's divisions; 10·5 in the Rockcliff and 12·9 per 1,000 in the Marden sub-district. The infant mortality rate varied between 56·6 and 66·6 in Monkseaton and St. Mary's respectively, and 78 in Rockcliff and 116 in Marden. No deaths occurred from zymotic disease in the Rockcliff or Monkseaton sub-districts. The attack rate from infectious disease was lowest in Marden and highest in Rockcliff.

The number of births was the highest ever recorded in this district, and the birth rate was the highest recorded during the past six years.

Cases of Diphtheria occurred during nine months of the year, but, for the first time in the recollection of the medical officer, no death was due to Diphtheria, and he states that "the early diagnosis of this disease, "made possible by the bacteriological examinations provided for by the "County Council, and the treatment by antitoxin have robbed it of most "of its terrors."

Outbreaks of Measles occurred in September and November, the schools affected being, respectively, Park Schools (Infants) and the Church Schools. Closure of the school, in each case, was necessitated and resulted in the termination of the epidemic.

Disinfection of houses after each fatal case of Phthisis was carried out, thirty rooms having been thus dealt with. Handbills were distri-

buted giving directions as to the precautions to be observed in dealing with cases of Tuberculosis.

*Factories and Workshops.*—These consisted of forty-three premises, ten of which were bakehouses. All were periodically inspected and no nuisances or other contraventions of the Act were found to exist. There were also two outworkers employed in the district.

*Dairies and Cowsheds.*—At the end of the year fourteen cowkeepers and twentythree purveyors of milk were on the register. The total number of dairy cows kept was one hundred and sixty-four, and the accommodation in the cowsheds averaged nearly eight hundred cubic feet per cow. All the cowsheds were inspected and were usually found in a fairly clean and sanitary condition; bi-annual limewashing was insisted upon.

*Slaughter Houses.*—There is one private slaughter house in the district in addition to the slaughtering accommodation at Hill Heads. The latter comprises eight slaughter houses which are used by eleven butchers. Frequent inspections were made of all.

*Improvements.*—Fifty-one houses and forty villas were erected during the year and certificates of habitation were granted.

The water supply for the district was well maintained and there was no necessity for obtaining water from the exceedingly doubtful supply at Marden; this reservoir was not used during the year under review.

The Promenade was extended southwards.

The Public Health Acts Amendment Act 1907 (parts of) were adopted.

Numerous improvements to existing houses were effected, these being set out in detail in the report of the sanitary inspector which was appended.

Notices were served requiring the abatement of seven hundred and sixty-two nuisances or other contraventions of the Public Health Acts, all of which (with the exception of thirty-four which were under arrangement for abatement at the end of the year) were remedied. The works executed in compliance with these notices included the following:—Testing, relaying and otherwise improving considerable lengths of drains; the whole of the drainage system of the Park Schools was tested and a number of defects were revealed and a report was presented to the Education Committee who were making arrangements to have all the defects remedied.

The new system of scavenging—by the Council, in lieu of scavenging on the contract system—was continued throughout the year, as its previous success during the last nine months of 1907 warranted, and the sanitary inspector reports that “the results obtained, as regards both “efficiency and economy fully justified the continuance of the system.” The relative cost of the two systems is admirably set out in Table I. of the sanitary inspector’s report. A comparison is made between the cost for the year as against the average annual cost for the previous five years under the contract system, the result being a saving of fourpence per head of the population per annum under the present system; total saved, £240.

*Requirements.*—Street improvements at Windsor Crescent.

A better system of refuse disposal than that of tipping, preferably by means of a modern refuse destructor.

The abolition of the conservancy system and the substitution of water closets and dry ashbins for the forty privy ashpits and more than a thousand pail closets which still remain. A consideration of the sanitary inspector’s report indicates the false economy of the conservancy system. Of the one thousand and ninety-two pail closets in the district, the owners in three hundred and ninety cases (35 per cent.) received notices requiring the provision of new pails. This represents a con-



tinual tax on householders utilising this type of sanitary convenience; also the time occupied in the detection of nuisances and the increased cost of scavenging as compared with the water carriage system, together prove that, from an economical standpoint alone, the pail closet system is unsatisfactory. The recent adoption, by the council of the Public Health Acts Amendment Act, 1907, will be of considerable assistance in carrying out the requirement last alluded to.

The provision of a steam disinfecter.

More stringent regulations under the Dairies, Cowsheds and Milkshops Order.

\*9.65 if the deaths of two non-residents which occurred in the district be deducted, and if the deaths of three residents which occurred without the district be added.

#### WILLINGTON QUAY.

Medical Officer of Health, C. T. U. BABST, L.R.C.P., L.R.C.S.

Area, 313 acres; estimated population, 9,220; birth rate, 36.55; general death rate, \*15.4; zymotic death rate, 2.16; infant mortality rate (per 1,000 births), 145.4; Phthisis death rate, 0.75; death rate from respiratory diseases, 3.47.

With the exception of the infant mortality rate and the Phthisis death rate, which have decreased by 2.03 and 0.23 respectively, all the above rates have increased, in comparison with those for the previous year, as follows:—Birth rate 2.27, general death rate 0.23, zymotic death rate 1.07 and the respiratory death rate 0.73.

Three hundred and thirty-seven births were registered during the year and one hundred and forty-two deaths; of the latter forty-nine were of children under one year, and twenty-nine of persons sixty-five years and upwards.

Twenty-five cases of infectious disease were notified as follows:—Diphtheria and Membranous croup 2, Erysipelas 5 and Scarlet fever 18.

Twenty deaths occurred from zymotic disease, viz.:—Measles 1, Whooping cough 6, Diphtheria and Membranous croup 1 and Diarrhoea 12.

Phthisis caused 7 deaths; respiratory diseases, 32; heart diseases, 18; accidents 5 and premature birth 4.

The respiratory death rate recorded was the highest, and the zymotic death rate the third highest in the administrative county. On the other hand the Phthisis death rate was the second lowest among urban districts for the year under consideration.

The medical officer includes in his report a table showing the general death rate for the last ten years as compared with that of the urban districts of England, taken as a whole. The comparison is not favourable to Willington Quay, as the death rate for this district has exceeded the average for English urban districts on every occasion during the period named and for the year under review was 1.4 higher than the average for English urban districts.

A similar comparison is made, again to the disadvantage of Willington Quay, as regards the death rates from zymotic diseases, *i.e.*, the average for ten years of English urban districts is 1.6 and for Willington Quay 1.83 per 1,000.

Owing to the district not being favourable to division into localities, the medical officer has, for the purpose of comparison, substituted the several streets or groups of contiguous streets for the divisions of the district required by the Local Government Board's official table (II.), and has calculated the death rates for the several streets or groups of contiguous streets and also the average death rate for the last twelve years. The undermentioned streets had a death rate, for the year 1908, exceeding 18 per 1,000 and, arranged in descending order, are as follows:—

Hodgson Street, Tyne Street, Stephenson Street, Carlyle Street, Dock Street, etc., Bewicke Street and Albert Road, Brunton Street, etc., Chapel Street, Potter Street and Gas Lane. The streets having the lowest death rates, *i.e.*, those under 13 per 1,000, are Norman Terrace, Parker Terrace, etc., Argyle Street, etc., Bewicke Road, etc., and Cumberland Street, etc., the last mentioned group having the lowest death rate with an average for the last twelve years of 9.6.

The cases of infectious disease notified, considering the character of the district, were decidedly few in number (25) and indicated a reduction of 10 when compared with the previous year. It is especially gratifying to note that no case of either Enteric or Puerual fever and only two of Diphtheria were notified during the year.

Of the twenty-five cases of infectious disease notified eleven (44 per cent.) were treated in the isolation hospital.

Of non-notifiable infectious diseases, Measles was prevalent during the first quarter and Whooping cough during the third and fourth quarters of the year. The two diseases last mentioned caused seven deaths which, with twelve from Diarrhœa, (epidemic during the autumn) and one from Diphtheria, accounts for the increased zymotic death rate.

In commenting upon the carelessness of parents in connection with the spread of infectious disease, the medical officer remarks:—"As regards children attending school it is very difficult to avoid exposure to infection when the disease is prevalent, but it should be quite possible to prevent children under five years of age contracting the disease and it is amongst the latter that the majority of fatal cases occurs. As a matter of fact, during 1908, not one child above five years of age died from Whooping cough in this district, all the deaths from that disease being of children under five years old. It will thus not be difficult to see that if no children contracted Whooping cough until after they commenced attending school a great saving of life would be effected."

*Factories and Workshops.*—The year closed with a total of thirty-three factories and workshops on the register. Thirty-six visits of inspection were paid and in only two instances were contraventions of the Act found to exist; these were both remedied. The sanitary conveniences provided for the use of the employees were in a fairly satisfactory condition and the air space in workrooms ample.

*Dairies, Cowsheds, Milkshops, and Slaughter Houses.*—The number of the above on the register is not stated in the report; they were inspected at regular intervals and found to be in a fairly satisfactory condition.

*Improvements.*—House to house inspections by the medical officer and sanitary inspector were made in a systematic manner and were the means of various insanitary conditions being discovered, the remedying of which cannot fail to have a salutary effect on the sanitary conditions of the localities affected.

Several blocks of old houses in Brunton and Chapel Streets were, after a change in the ownership, completely reconstructed and re-roofed. The houses in Palmer's Terrace and Hill Street, alluded to in the medical officer's annual report for 1907 as being in an insanitary condition, were satisfactorily repaired.

*Water Supply.*—The mains of the Newcastle and Gateshead Water Company were extended and the constant service provided in the district by the Company was efficiently maintained.

*Sewerage and Drainage.*—New sewers were laid in the back streets of the following localities:—Bewicke Street, Armstrong Road, Smeaton Street and Western Road. Improvements in the drainage of the "jail" buildings in Potter Street were effected.



A detailed list of nuisances, etc., for which notices were issued and the matters complained of remedied, is given by the sanitary inspector in his annual report and includes, amongst a total of 189, the following :—Notices requiring general repairs to houses, 30 ; defective sanitary accommodation, 57 ; limewashing of passages, etc., 46 ; defective yard gullies, 17 ; defective yard paving, 12 ; defective roofs and ceilings, 8 ; other defects, 19. Several privy middens were abolished and box closets substituted.

*Requirements.*—Improvements in the housing conditions at Keelman's Row and in other localities were still urgently needed ; the necessary alterations to houses in Keelman's Row were not carried out, although the medical officer stated in his previous annual report, "the dwellings in Keelman's Row remain in an unsatisfactory state and these should be put into a habitable condition or closed."

Referring to inadequate housing accommodation in the district and the need for improvement in the structural condition of many existing houses, the medical officer makes the following pertinent remarks :—  
 "The great mortality from Whooping cough and from all respiratory diseases is due to the fact that no adequate provision is made, in the great majority of workmen's dwellings for the treatment of the sick. There are a great many two-roomed houses in this district consisting of one fairly large kitchen and a small bedroom, the latter generally without a fireplace. The sick in these houses have to be treated either in the bedroom, where the temperature, during the night, in the winter time, often falls to almost freezing point, or in the kitchen which, from obvious reason, is equally unsuitable. Consequently the poor little patients treated in these houses have no chance of battling against diseases, in which a warm temperature kept up night and day is an important element in the cure. I think it would be well if the council in future were to prohibit the construction of bedrooms without fireplaces, for not only do the latter warm the air in cold weather, but they act as efficient ventilators in summer."

The abolition of many insanitary privy ashpits which still exist in this district and the substitution of water closets and ashbins are still urgently needed. Referring to the large open privy ashpits, the medical officer states, "These structures are not disappearing as rapidly as I would like. They are dangerous to health because they cannot be emptied frequently and because the night-soil lies in the part of the ashpit and the ashes in another, so that the contents do not get properly mixed and the deodorizing properties of the ashes are not properly utilised." The complaints frequently received of the nuisance attending these abominations and their scavenging are more likely to be obviated by the substitution of modern appliances than by any attempt to cloak, by disinfectants, the serious nuisances which are inseparable from insanitary privy-middens.

\* 16·16 if two deaths of strangers occurring in the district be deducted, and if nine deaths of residents occurring without the district be added.

## RURAL DISTRICTS.

## ALNWICK.

Medical Officer of Health, A. SCOTT PURVES, M.D.

Area, 93,009 acres; estimated population, 12,740; birth rate, 24.01; general death rate, \*13.34; zymotic death rate, 0.78; infant mortality rate (per 1,000 births), 104.57; Phthisis death rate, 1.02; death rate from respiratory diseases, 0.78.

During the year under review the Phthisis death rate was the same as in the preceding year; the birth rate and the infant mortality rate increased by 1.82 and 1.74 respectively, and the remaining rates decreased as follows:—General death rate 0.35, zymotic death rate 0.16 and the respiratory death rate 0.16.

Three hundred and six births were registered during the year and one hundred and seventy deaths; of the latter thirty-two were of children under one year, and seventy of persons sixty-five years and upwards.

Eighty-three cases of infectious diseases were notified as follows:—Diphtheria 55, Erysipelas 6, Scarlet fever 16, Enteric fever 5 and Continued fever 1.

Ten deaths occurred from zymotic diseases, viz.:—Whooping cough 4, Diphtheria (including Membranous croup) 5 and Enteric fever 1.

Phthisis caused 13 deaths, respiratory diseases 10, heart diseases 20, accidents 7 and premature birth 7.

The respiratory death rate was the lowest and the Phthisis death rate the second highest recorded in the rural districts of the administrative county.

Of the fifty-five cases of Diphtheria, twenty-nine occurred in the Warkworth and twenty-five in the Embleton sub-divisions; one case only was notified in the Denwick sub-district which was, with this exception, entirely free from notifiable infectious diseases. All the persons attacked by Enteric and Continued fever were in the Warkworth sub-division, in which, also, five of the sixteen cases of Scarlet fever occurred, the remaining eleven cases being in the Embleton division.

The following table indicates the populations and various rates in each of the sub-districts:—

| Sub-districts. | Popu-<br>lation. | Births. |                          | Deaths. |                          | Infant<br>deaths. |                              | Zymotic<br>deaths. |                          | Infectious<br>diseases. |                                 |
|----------------|------------------|---------|--------------------------|---------|--------------------------|-------------------|------------------------------|--------------------|--------------------------|-------------------------|---------------------------------|
|                |                  | No.     | Rate<br>per 1000<br>pop. | No.     | Rate<br>per 1000<br>pop. | No.               | Rate<br>per 1,000<br>births. | No.                | Rate<br>per 1000<br>pop. | No.<br>notified.        | Attack<br>rate per<br>1000 pop. |
| Warkworth ...  | 7,533            | 184     | 24.42                    | 113     | 15.00                    | 16                | 86.95                        | 7                  | 0.92                     | 44                      | 5.84                            |
| Embleton ...   | 4,540            | 106     | 23.34                    | 52      | 11.45                    | 13                | 122.64                       | 2                  | 0.44                     | 38                      | 8.37                            |
| Denwick ...    | 667              | 16      | 23.98                    | 10      | 14.99                    | 3                 | 62.50                        | 1                  | 1.49                     | 1                       | 1.49                            |
| Whole district | 12,740           | 306     | 24.01                    | 175     | 13.73                    | 32                | 104.57                       | 10                 | 0.78                     | 83                      | 6.51                            |

The medical officer deals, at considerable length, with the large increase in the number of Diphtheria cases which were notified. These numbered fifty-five, or five more than the total number for the preceding five years. The chief incidence of the disease was on the Longhoughton, Radcliffe and Togston Terrace localities. The school at Longhoughton was closed on two occasions in consequence of the prevalence of this disease.



The medical officer acknowledges the great assistance, in arriving at an early diagnosis, given by the County Council's arrangement for bacteriological examination, and to this, and to the use of anti-diphtheritic serum, he attributes the extremely low rate of mortality, *i.e.*, only nine per cent. of the cases ended fatally.

*Factory and Workshop Act.*—Ninety-five workshops were on the register and are stated to have been inspected from time to time. The number of nuisances or other contraventions met with is not given. The official form was not included in the report.

*Dairies and Cowsheds.*—The number of these premises on the register is not stated. Inspections with a view to the enforcing of the regulations were made, but no allusion is made to contraventions, if any, that were met with.

*Common Lodging House.*—A licence was granted for a house at Glanton with provision for eleven lodgers.

*Improvements.*—Housing, etc.—In addition to a large number of minor sanitary defects and nuisances, which were remedied or abated after verbal notice, the following improvements were carried out:—New floors and air grates provided for a house in Castle Street, Warkworth; repairs to spouting, walls, floors and the provision of air grates at Glanton Dene House; remedial measures adopted so as to prevent the flooding of the street and yards at Togston Terrace by surface water from North Broomhill; re-modelling of the premises at Cowslip Hill, Felton; paving of the road at Togston Crescent.

*Water Supply.*—Considerable activity appears to have been shown in the improvement of the water supply to various parts of the district, notably, at Golden Moor, Denwick, Mount Pleasant, Low Hauxley, Glanton Mile End, West Cawledge Park Farm, Dean Moor and the Butts. The three-quarter inch pipe supplying Grosvenor Terrace, Alnmouth, was replaced by a two inch cast iron pipe, and application was made to the Local Government Board for sanction to borrow £200 for the improvement and enlargement of water mains. A scheme for improving the water supply to the higher parts of the township of Warkworth was being prepared.

*Sewerage and Drainage.*—Among the many improvements effected, the following may be mentioned:—The open sewer by the side of the public footpath from Little Mill Station to Rennington was piped and covered in; a new outlet for the drain from Howle Kiln, Alnmouth, was provided and the surface water from the common was drained into tidal waters; various other improvements were effected at Togston Hall, Dial Place Warkworth, Coast Guard's house at Boulmer, Bolton Wood Hall, Pitt's Yard Embleton, High Learchild, Tritlington Farm House and Red Lion Yard, Felton; also at Golden Moor, Eglington Hill, Embleton East Farm and in the drainage of yards at Warkworth.

Application was made to the Local Government Board for sanction to borrow £375 for a new sewerage scheme for Heather Leazes near Warkworth; at this place thirteen new houses had been built and were drained into land drains, ditches or cesspools.

With a view of, as far as possible, preventing the spread of infectious disease in this very extensive rural district, the council carried out an improved system of disinfection under which all houses in which infectious disease had occurred were effectually dealt with. The medical officer remarks:—"This arrangement has worked well and the marked diminution of the number of cases of Scarlet fever may, I think, be taken as an evidence of the usefulness of such disinfection and the thoroughness with which it has been carried out."

Several improvements in the sanitary accommodation of houses, etc., were effected as follows:—The provision of six new water closets at Embleton; additional water closet and ashpit for Riddell's Cottages at

the Butts, Warkworth; conversion of privies into water closets at Cuthbert's, Grey's and Forster's Yards, Warkworth; conversion of privies to pail or earth closets at Rose Cottage, Embleton; Red Lion Yard, Felton; the cottages near the Blink Bonny Hotel, Christon Bank; also additional privy accommodation was provided for Morton's property, Embleton.

*Requirements.*—An improved water supply was still needed in the following localities:—Glanton North Field, Middle Cawledge Park, Shipley Lane, Sturton Grange South Side, Acklington Low Park and Acklington. The well near the churchyard at Acklington, which is the supply for the inhabitants of this village and also for a dairy farm, can only be regarded as a possible source of extreme danger. The distance from the nearest grave to the well is only about thirty yards, and as the intervening sub-soil is sand and gravel, the danger of the well water being polluted is considerable.

In connection with the Longhoughton outbreak of Diphtheria and the privy accommodation at the school, the medical officer remarks:—"I drew the attention of the managers to the irregular way in which the large privy for the female side of the school was cleaned, and pointed out my reasons for suspecting that this having become infected was almost certainly an agent in spreading the disease. I strongly recommended that this privy should be replaced by water closets, as on the male side, but the managers have declined the suggestion, being satisfied with the present arrangement."

At Radcliffe the medical officer calls attention to the condition of the roads, to the inadequate provision for drainage and to the noxious emanations from a ditch containing stagnant water, sewage and the drainage from piggeries, etc., conditions which he considers a danger to the health of the dwellers in this populous locality and which greatly conduced to the prevalence of Diphtheria. The open ditch above-mentioned is distant from the houses, fifteen to thirty yards only, and should be replaced by a pipe sewer.

An open sewer in the Morpeth Rural District, but close to the houses at Togston Terrace continued to be a nuisance to the tenants of these houses and was, most probably, a source of danger. It is essential that this sewer should be piped in.

Measures should be adopted for preventing the pollution of the Lady Burn by crude sewage from Togston Terrace and Togston Crescent.

The framing of bye-laws for the regulation of common lodging houses is an obligation required by Section 80 of the Public Health Act 1875, and should have the early consideration of the district council.

The value of the medical officer's excellent report is materially reduced by the omission of the Local Government Board's Tables, I., II., III. and V., and of the Form relating to factories and workshops. The information given in the above-mentioned tables constitutes an important item in the annual report and should be available for anyone taking an interest in public health matters.

\* 13·73 if the deaths of five residents occurring without the district be added.

#### BELFORD.

Medical Officer of Health, J. G. MACASKIE, L.R.C.P., L.R.C.S., D.P.H.

Area, 39,619 acres; estimated population, 5,256; birth rate, 22·07; general death rate, 14·07; zymotic death rate, 0·19; infant mortality rate (per 1,000 births), 94·82; Phthisis death rate, 0·76; death rate from respiratory diseases, 2·09.

As compared with the previous year, the birth rate, the Phthisis death rate and the infant mortality rate showed decreases of 0·02, 0·38 and 8·58 respectively; the remaining rates increased as follows:—General



death rate 0.55, the zymotic death rate 0.19 and the respiratory death rate 0.19.

One hundred and sixteen births were registered during the year and seventy-four deaths; of the latter eleven were of children under one year and twenty-six of persons sixty-five years and upwards.

Twelve cases of infectious diseases were notified as follows:—Diphtheria 5, Erysipelas 4, Scarlet fever 2 and Enteric fever 1.

One death occurred from zymotic diseases, viz., from Whooping cough.

Phthisis caused 4 deaths, respiratory diseases 11, heart diseases 15, accidents 3 and premature birth 3.

The general death rate was the second highest and the respiratory death rate the third highest recorded in the rural districts of the administrative county.

The zymotic death rate was the lowest and the infant mortality rate and Phthisis death rate were each the third lowest in rural districts.

The following table indicates the populations and various rates in each of the several sub-districts:—

| Sub-districts.               | Popu-<br>lation. | Births. |                          | Deaths. |                          | Infant<br>deaths. |                              | Zymotic<br>deaths. |                          | Infectious<br>diseases. |                                 |
|------------------------------|------------------|---------|--------------------------|---------|--------------------------|-------------------|------------------------------|--------------------|--------------------------|-------------------------|---------------------------------|
|                              |                  | No.     | Rate<br>per 1000<br>pop. | No.     | Rate<br>per 1000<br>pop. | No.               | Rate<br>per 1,000<br>births. | No.                | Rate<br>per 1000<br>pop. | No.<br>notified.        | Attack<br>rate per<br>1000 pop. |
| Belford ...                  | 729              | 22      | 30.17                    | 13      | 17.83                    | 2                 | 90.90                        | —                  | —                        | 4                       | 5.4                             |
| North Sunder-<br>land ...    | 1,066            | 22      | 20.63                    | 9       | 8.44                     | —                 | —                            | —                  | —                        | 2                       | 1.8                             |
| Bamburgh ...                 | 582              | 11      | 18.89                    | 7       | 12.02                    | 3                 | 272.72                       | —                  | —                        | 1                       | 1.7                             |
| Beadnell ...                 | 304              | 6       | 19.73                    | 5       | 16.44                    | 1                 | 166.66                       | —                  | —                        | 2                       | 6.5                             |
| Remainder of<br>district ... | 2,575            | 55      | 21.35                    | 40      | 15.53                    | 5                 | 90.90                        | 1                  | 0.38                     | 3                       | 1.1                             |
| Whole district               | 5,256            | 116     | 22.07                    | 74      | 14.07                    | 11                | 94.82                        | 1                  | 0.19                     | 12                      | 2.2                             |

In commenting on the infant mortality rate, the medical officer points out that only one death (*i.e.*, from Whooping cough) was due to disease of an infectious nature, and further remarks, "When the rate is high it is usually found that artificial feeding has, to a large extent, been resorted to; milk, unless specially prepared, is a fertile cause of many diseases of the stomach and bowels, digestion is interfered with and mal-nutrition leads to fatal results."

The only case of Enteric fever which was notified occurred in a house in which the kitchen sink was untrapped and the waste pipe connected direct to the drain and sewer.

With a view of reducing the prevalence of Diphtheria, the importance of maintaining a high standard of sanitary efficiency is emphasised by the medical officer as follows:—"Air rendered impure by imperfect drains or badly constructed or badly kept ashpits lowers the resisting power and causes certain persons to readily contract the disease. In all parts of the district every effort should be made to secure flushing of gullies and frequent removal of ashpit contents. Ashpits should be covered in, well ventilated, and kept as dry as possible at all times, especially during the hot months."

On account of the prevalence of Influenza amongst the school children, the schools at Newham, North Sunderland, Beadnell and Lucker were closed for a fortnight during March.

*Factory and Workshop Act.*—The workshops of the district were registered and totalled seventy-six. All were inspected and the bakehouses (five in number) received special attention. No contraventions of the Act were met with.

*Dairies and Cowsheds.*—The number on the register is not stated. All the cowsheds were visited; in two cases defects were found and these were unremedied at the close of the year.

*Slaughter Houses.*—These were all visited and in one case bye-law 12, relating to the condition of the floor, and bye-law 15, requiring the maintenance of an efficient water supply, were being contravened; the conditions complained of were still requiring attention at the close of the year.

*Improvements.*—Housing.—Plans were passed, during the year, for the erection of five new houses. One house at North Bank was improved by the addition of another storey and improvements of existing houses were also effected at West Street, Belford, Mousen Farm Cottages, Chesterhill, Seahouses, and at Low Middleton Farm Cottages.

Water Supply.—A storage tank was erected at West Street, Belford, and the supply to the houses thereby greatly improved. Other improvements were effected as regards the water supply at Warelaw and Burton.

Drainage, etc.—At Swinhoe the two offensive ponds which were full of stagnant water, were drained into the sewer and filled in. Other improvements in the drainage of houses and other premises were carried out at Warelaw, Beadnell (Square), Ellingham and West Street Belford. The cesspool at Bellshill has been replaced by a tank and filter bed.

Refuse Disposal.—Structural improvements to the sanitary accommodation at the West Street School, Belford, were carried out and also at Elwick and North Bank.

*Requirements.*—The provision of an adequate and suitable supply of water for Beadnell, which has been long needed, and for the slaughter house at Belford, which is still without a supply. The windmill at Ross, used for raising the water, was in need of repair.

Means should be adopted for preventing the dampness of farm cottages at New Shoreston, Craster Square and Seahouses; the dampness of all these houses was also mentioned in the medical officer's report for 1907.

The sanitary conveniences at Glororum were still in the same unsatisfactory state as complained of in the previous annual report.

The drainage at Spindlestone farm cottages required attention.

Measures were still required to prevent the nuisance at Seahouses caused by herring brine flowing on to the highway.

The bye-laws relating to slaughter houses, contraventions of which have existed for some years, require to be more stringently enforced.

Improvements in some of the cowsheds are also urgently needed, and the framing and adoption of stringent regulations under the Dairies, Cowsheds and Milkshops Order, as recommended by the medical officer, should be proceeded with.

Alluding to the deaths from Phthisis and the necessity for taking steps with a view to the prevention of this disease, the medical officer remarks:—"The national mortality from this disease is high, and there is no doubt that this would be greatly lessened if Phthisis were to be looked upon as an infectious disease in the same way as Scarlet fever is. The obstacle in the way is the expense, but not much reduction in the mortality need be looked for until definite steps of early isolation are adopted. Notification, however, should be compulsory in all cases and leaflets or cards should be printed and given to each householder where the disease exists, directing him how to improve the position of the patient and how to prevent others being infected."



## BELLINGHAM.

Medical Officer of Health, J. P. ELLIOT, L.R.C.P., L.R.C.S., L.M.

Area, 246,580 acres; estimated population, 6,000; birth rate, 18.5; general death rate, 11.0; zymotic death rate, 0.66; infant mortality rate (per 1,000 births), 54.05; Phthisis death rate, 1.0; death rate from respiratory diseases, 0.83.

With the exception of the zymotic death rate and the death rate from respiratory diseases, which have increased by 0.33 and 0.17 respectively, all the above rates have decreased, in comparison with the preceding year, as follows:—Birth rate 3.35, general death rate 4.0, infant mortality rate 29.91 and the Phthisis death rate 0.5.

One hundred and eleven births were registered during the year and sixty-six deaths; of the latter six were of children under one year and thirty of persons sixty-five years and upwards.

Twenty-four cases of infectious diseases were notified as follows:—Diphtheria (including Membranous croup) 12, Erysipelas 4, Scarlet fever 6 and Enteric fever 2.

Four deaths occurred from zymotic diseases, viz.:—Diphtheria (including Membranous croup) 3 and Diarrhœa 1.

Phthisis caused 6 deaths, respiratory diseases 5, heart diseases 9, accidents 1 and premature birth 1.

The birth rate, general death rate and the infant mortality rate were the lowest and the respiratory death rate was the second lowest recorded in the rural districts of the administrative county. The medical officer also points out that the general death rate is the lowest recorded during his thirty years' experience in the district.

The following table gives information as to the population, birth rates, the various mortality rates, the cases of infectious disease notified and the attack rate of the latter per 1,000 population in the several subdivisions.

| Sub-districts.           | Popu-<br>lation. | Births. |                          | Deaths. |                          | Infant<br>deaths. |                             | Zymotic<br>deaths. |                          | Infectious<br>diseases. |                                 |
|--------------------------|------------------|---------|--------------------------|---------|--------------------------|-------------------|-----------------------------|--------------------|--------------------------|-------------------------|---------------------------------|
|                          |                  | No.     | Rate<br>per 1000<br>pop. | No.     | Rate<br>per 1000<br>pop. | No.               | Rate<br>per 1000<br>births. | No.                | Rate<br>per 1000<br>pop. | No.<br>notified.        | Attack<br>rate per<br>1000 pop. |
| Bellingham ...           | 1,256            | 28      | 22.3                     | 21      | 16.7                     | 2                 | 71.4                        | 2                  | 1.51                     | 11                      | 8.7                             |
| Falstone ...             | 1,100            | 30      | 27.2                     | 7       | 6.3                      | 3                 | 100.0                       | 1                  | 0.90                     | —                       | —                               |
| Corsenside ...           | 700              | 13      | 18.5                     | 11      | 15.7                     | 1                 | 76.9                        | —                  | —                        | 1                       | 1.4                             |
| Elsdon ....              | 1,320            | 16      | 12.1                     | 10      | 7.5                      | —                 | —                           | —                  | —                        | 5                       | 3.7                             |
| Wark and<br>Birtley ...  | 1,004            | 15      | 14.9                     | 9       | 8.9                      | —                 | —                           | 1                  | 0.90                     | 4                       | 3.9                             |
| Kirkwhelp-<br>ington ... | 620              | 9       | 14.5                     | 8       | 12.9                     | —                 | —                           | —                  | —                        | 3                       | 4.8                             |
| Whole district           | 6,000            | 111     | 18.5                     | 66      | 11.0                     | 6                 | 54.0                        | 4                  | 0.66                     | 24                      | 4.0                             |

It will be seen, by reference to the above table, that the birth rate was below 15 per 1,000 in three of the sub-divisions in this district, and the general death rate in four sub-divisions. The total deaths (six) of infants under one year, were remarkably few and in three sub-divisions no deaths at this age period occurred and also, in three, no deaths were caused by zymotic diseases.

Diphtheria was reported from five different localities and the medical officer states that, in his opinion, the high percentage (25. per cent.) of

deaths to attacks was principally due to the fact that, in many cases, medical attendance was not sought for until too late.

Scarlet fever affected three localities and the British School at Bellingham was closed for six weeks owing to an outbreak of this disease in the schoolmaster's family.

The two cases of Enteric fever which occurred at Elsdon were proved to have been contracted outside the district.

*Factories and Workshops.*—Sixteen workshops, none of which were bake-houses, were on the register and a corresponding number of inspections were made. No nuisances or other contraventions of the Act were found to exist and the report states that there were no outworkers.

*Dairies and Cowsheds.*—The number of premises on the register is not stated in the report, but all were inspected and no contraventions of the regulations were met with.

*Improvements.*—Additional housing accommodation was provided at Bellingham, Otterburn Hall and Wark. Additions and improvements to existing houses were carried out at Bellingham, Longhaugh-shields, The Crag, Everstones and Kirkwhelpington.

Improvements as regards water supplies were effected as follows:—At Bellingham a most efficient and abundant supply was provided, and Shieldlaw, Reenes Farm and ten houses at Snoggygate were also supplied from the same source.

Improved water supplies were also provided during the year at Anton Hill, Ramshaw's Mill and Birtley.

The ventilation of the main sewer in Percy Street, Bellingham, was improved by the erection of a ventilating shaft.

The drainage of several houses was improved, the drains, in some cases, being entirely relaid, notably, at Snoggygate, Anton Hill, Ferney Ridge, Denehead, Ramshaw's Mill, Brandy Bank, Little Rilsdale, Closehill and Crookbank School.

New water closets were provided for three houses at Bellingham and at Fenwick's Buildings the privies were converted into pail-closets. New privy accommodation was provided at Boggle Hole, the Boathouse and Wishaw Cottage.

*Requirements.*—Improved water supplies for Wark, West Woodburn and Plashetts.

The construction of new drainage systems for houses, etc., in the following localities:—Greenhaugh, Yarrow Cottage, Boat House, Soppitt, West Whygate, Thorneyburn Eals, Lanehead Cottages and Heathery Hall, were needed.

Some provision for the isolation of infectious diseases.

The printing of the annual report of the medical officer so that copies may be available for any ratepayer who is interested in the public health administration of the district.

#### CASTLE WARD.

Medical Officer of Health, WILLMOT HOLMES, M.R.C.S., L.R.C.P.

Area, 85,124 acres; estimated population, 12,187; birth rate, 21.82; general death rate, 11.4; zymotic death rate, 0.49; infant mortality rate (per 1,000 births), 127.81; Phthisis death rate, 0.73; death rate from respiratory diseases, 1.96.

When compared with the rates for the preceding year, the infant mortality rate and the respiratory death rate show increases of 11.54 and 0.42 respectively. The remaining rates have decreased as follows:—Birth rate, 0.26; general death rate, 0.24; zymotic death rate, 0.19; Phthisis death rate, 0.55.



Two hundred and sixty-six births were registered during the year and one hundred and thirty-nine deaths; of the latter thirty-four were of children under one year and forty-four of persons sixty-five years and upwards.

Seventy-three cases of infectious disease were notified as follows:—Diphtheria and Membranous croup 36, Erysipelas 16, Scarlet fever 11 and Enteric fever 10.

Six deaths occurred from zymotic disease, viz.:—Diarrhœa 3, Whooping cough 2, Diphtheria 1.

Phthisis caused 9 deaths, respiratory diseases 24, heart diseases 18, accidents 5, and premature birth 8.

The general death rate and the Phthisis death rate were the second lowest, and the birth rate the third lowest recorded in the rural districts of the administrative county.

The following table indicates, for each sub-division, the population, birth rate, the various mortality rates and the attack rate from infectious disease:—

| Sub-districts.              | Popu-<br>lation. | Births. |                          | Deaths. |                          | Infant<br>deaths. |                             | Zymotic<br>deaths. |                          | Infectious<br>diseases. |                                 |
|-----------------------------|------------------|---------|--------------------------|---------|--------------------------|-------------------|-----------------------------|--------------------|--------------------------|-------------------------|---------------------------------|
|                             |                  | No.     | Rate<br>per 1000<br>pop. | No.     | Rate<br>per 1000<br>pop. | No.               | Rate<br>per 1000<br>births. | No.                | Rate<br>per 1000<br>pop. | No.<br>notified.        | Attack<br>rate per<br>1000 pop. |
| Heddon ...                  | 1,393            | 25      | 17·9                     | 14      | 10·0                     | 5                 | 200·0                       | —                  | —                        | 10                      | 7·1                             |
| Newburn ...                 | 785              | 14      | 17·8                     | 8       | 10·1                     | 4                 | 285·7                       | 1                  | 1·27                     | —                       | —                               |
| Stamfordham<br>and Matfen   | 1,398            | 41      | 29·3                     | 13      | 9·2                      | 2                 | 48·7                        | —                  | —                        | 3                       | 2·1                             |
| Kirkheaton &<br>Capheaton   | 333              | 8       | 24·0                     | 3       | 9·0                      | 1                 | 125·0                       | —                  | —                        | 12                      | 36·0                            |
| Gosforth (N.)               | 1,490            | 36      | 24·1                     | 13      | 8·7                      | 4                 | 111·1                       | 1                  | 0·67                     | 6                       | 4·0                             |
| Stannington<br>and Belsay   | 2,148            | 34      | 15·8                     | 21      | 9·7                      | 3                 | 88·8                        | —                  | —                        | 3                       | 1·4                             |
| Ponteland and<br>Dinnington | 4,640            | 108     | 23·2                     | 67      | 14·4                     | 15                | 138·8                       | 4                  | 0·86                     | 39                      | 8·4                             |
| Whole district              | 12,187           | 266     | 21·8                     | 139     | 11·4                     | 34                | 127·8                       | 6                  | 0·49                     | 73                      | 5·9                             |

It will be seen, by reference to the above table, that the general death rate was very uniform in all the sub-districts, with the exception of the Ponteland and Dinnington sub-division, where the rate was 14·4 per 1,000; in the other localities, the rate varied between 8·7 and 10·1 per 1,000.

The districts chiefly affected by Diphtheria were Capheaton (11 cases), Dinnington Colliery (8 cases) and Heddon-on-the-Wall (5 cases) out of a total, for the whole district, of thirty-eight cases. The schools at Capheaton were closed for three weeks in February and March, during which time they were disinfected. Nine of the ten cases of Enteric fever occurred in Dinnington Colliery and one at Fawdon Old Pit.

Whooping cough was prevalent during the months of May and June, the districts chiefly affected being Dinnington Colliery and Dinnington Village. The medical officer draws attention to the carelessness exercised by parents in regard to this disease, and instances one case of a child attending school from a house in which two other children were suffering from the disease.

*Factory and Workshop Act.*—The factories numbered four, and the workshops (none of which are bakehouses) nine; all were inspected during the year and, in every case, the sanitary conditions were found to be satisfactory.

*Dairies and Cowsheds.*—Thirty-two dairies and cowsheds were on the register. The number of inspections made is not stated. In one case instructions were given to isolate a dairy cow and to stop the sale of her milk owing to the presence of tubercle bacilli having been demonstrated in a sample of milk from this animal.

No mention of slaughter houses is made in the report.

*Improvements.*—The medical officer reported to the council in August on the general insanitary condition of sixty-six houses at Fawdon Square and, after a further report upon four of the houses in September, legal proceedings under the Housing of the Working Classes Act 1890, were taken and a closing order obtained in respect of four houses. With regard to the remaining houses, the improvements effected were so slight as to be almost negligible and negotiations between the council and the owners were proceeding at the end of the year, the object of the council being to have the houses made fit for human habitation or to have them closed.

The Newcastle and Gateshead Water Company's mains were extended to the Wheat Sheaf Inn on the Newcastle and Ponteland road and a new supply from the company's mains was provided at Woolsington High House. The Water Company laid down, altogether, upwards of 3,000 yards of main extensions during the year. The Lady Well at Ponteland, which has been so long liable to pollution, was cemented and a pump fixed thereto.

Insanitary conditions were remedied in some of the houses at Heddon in which Diphtheria had occurred.

A number of improvements in the drainage of the following places were effected, viz. :—Plessy Mill; Fenwick Hall; Kirkheaton; Ogle; West Heddon; Capheaton; Mason's Arms, Dinnington; and Dinnington Village.

New sanitary conveniences were erected at Bolam Bog, Craig Hall, Mr. Urwin's Farm and the Bay Horse, Dinnington, Ogle Flats Farm, West Heddon, Fawdon Farm Cottages, Birney Hill and East Brunton.

Sewage disposal works were provided during the year for the treatment of sewage from the following localities :—Stannington Village; the New Kennels and Dairy, Blagdon; Gallow Hill; Fawdon Old Pit and Birney Hill. The sewage disposal works at the Cottage Homes, Ponteland, were enlarged and re-arranged.

*Requirements.*—Very considerable improvements in the housing conditions, and also in the condition of the drainage at Fawdon Square, or the closure of the houses.

Roofing over uncovered ashpits and lining with cement concrete the privies and ashpits at Dinnington Colliery and other places.

The condition of the road at Bigg Row, Dinnington Colliery, was such as to require early attention and some of the yards in the locality were in a very defective condition owing to the lack of proper paving.

Measures were still needed for preventing the gross pollution of the Carr Cuts by sewage from Dinnington.

The provision of a site for a Small-pox Hospital.

#### GLENDALE.

Medical Officer of Health, ALEXANDER DEY, M.B., C.M.

Area, 147,942 acres; estimated population, 8,777; birth rate, 22.69; general death rate, \*13.79; zymotic death rate, 0.45 infant mortality rate (per 1,000 births), 110.55; Phthisis death rate, 1.02; death rate from respiratory diseases, 1.71.



Of the above rates the zymotic death rate and the respiratory death rate have decreased in comparison with the rates for the previous year by 0.12 and 0.22 respectively; all the other rates have increased as follows:—The birth rate by 3.2, general death rate by 3.99, infant mortality rate by 81.32 and the Phthisis death rate by 0.45.

One hundred and ninety-nine births were registered during the year and one hundred and twenty-one deaths; of the latter twenty-two were of children under one year, and forty-four of persons sixty-five years and upwards.

Thirty-seven cases of infectious diseases were notified as follows:—Diphtheria (including Membranous croup) 11, Erysipelas 12, Scarlet fever 12 and Enteric fever 2.

Four deaths occurred from zymotic diseases, viz.:—Whooping cough 1, Diphtheria and Membranous croup 1 and Diarrhœa 2.

Phthisis caused 9 deaths; respiratory diseases, 15; heart diseases, 17; accidents, 1 and premature birth, 1.

The Phthisis death rate was the third highest and the zymotic death rate the third lowest recorded in the rural districts of the administrative county.

The birth rate and infantile mortality rate were each the highest recorded in this district for the past ten years.

A severe epidemic of Influenza occurred during the latter part of March and the early part of April which necessitated the closure of Kirknewton School for a fortnight.

The school at Mindrum was also closed on two occasions during the year owing to the prevalence of infectious disease, *i.e.*, from January 10th to February 17th, owing to Whooping cough, and from December 15th to the end of the year owing to Scarlet fever.

Whooping cough was also very prevalent in the Crookham district, and the school in this locality was, in consequence, closed from March 1st to April 23rd.

The following table gives, for each sub-district, the population, the birth rate, the various mortality rates, the number of infectious diseases notified and the attack rate of the latter per 1,000 of the population:—

| Sub-districts. | Popu-<br>lation. | Births. |                          | Deaths. |                          | Infant<br>deaths. |                             | Zymotic<br>deaths. |                          | Infectious<br>diseases. |                                 |
|----------------|------------------|---------|--------------------------|---------|--------------------------|-------------------|-----------------------------|--------------------|--------------------------|-------------------------|---------------------------------|
|                |                  | No.     | Rate<br>per 1000<br>pop. | No.     | Rate<br>per 1000<br>pop. | No.               | Rate<br>per 1000<br>births. | No.                | Rate<br>per 1000<br>pop. | No.<br>notified.        | Attack<br>rate per<br>1000 pop. |
| Wooler ...     | 4,549            | 106     | 23.3                     | 66      | 15.3                     | 12                | 113.2                       | 3                  | 0.65                     | 20                      | 4.4                             |
| Ford ...       | 4,200            | 92      | 21.9                     | 51      | 12.1                     | 10                | 108.6                       | 1                  | 0.23                     | 16                      | 3.8                             |
| Workhouse ...  | 28               | 1       | —                        | 4       | —                        | —                 | —                           | —                  | —                        | 1                       | —                               |
| Whole district | 8,777            | 199     | 22.69                    | 121     | 13.79                    | 22                | 110.55                      | 4                  | 0.45                     | 37                      | 4.21                            |

*Factory and Workshop Act.*—Seventy-six factories and workshops were on the register. Twelve factory inspections and fifteen workshop inspections were made, no defects being met with.

*Dairies and Cowsheds.*—The number of these premises on the register is not stated. The cowsheds were visited “from time to time” and found to be kept in accordance with the regulations, as regards ventilation, cleanliness and water supply.

No mention is made, in the report, of Slaughter Houses or Common Lodging Houses.

*Improvements.*—The housing accommodation of this district was increased by the erection of six new houses at Wooler, one at Tenter Hill, two at Roddam Home Farm and two at West Fenton. At the latter place the old cottages were thoroughly reconstructed and considerably improved, being converted into three very good cottages. New cottages were also in course of erection at Ford Village, and various improvements to existing houses were being carried out at the close of the year.

Improved water supplies were provided at East Learmouth and Fowberry Tower.

At West Learmouth and Presson, defective privies were reconstructed and at the latter place a number of insanitary pig styes, situate in close proximity to the cottages, were demolished and new styes erected at a more suitable distance.

Drainage improvements were carried out at Fawdon in consequence of defects discovered by reason of an outbreak of Diphtheria in this locality.

The Wooler sewage disposal works were “repaired and improved” and the outfall pipe laid across the bed of the river with a view to preventing damage by floods.

*Requirements.*—Increased provision for the storage of drinking water at Wooler, as has been pointed out in the two previous annual reports.

An improved supply of water for Lowick.

Sanitary accommodation on the water carriage system for both the schools at Wooler, especially for the infants’ department of the National Schools.

Measures should be taken immediately to secure better conditions as regards the privies for the cottages at Turvelaws which, “although reported on more than one occasion, have not been attended to, and, in their present state, are dangerous to the health of the cottagers.”

\* 13·91 if the death of a resident occurring without the district be added.

#### HALTWHISTLE.

Medical Officer of Health, J. M. GLASSE, M.B., B.S.

Area, 69,333 acres; estimated population, 9,606; birth rate, 25.92; general death rate, 12.80; zymotic death rate, 1.14; infant mortality rate (per 1,000 births), 108.43; Phthisis death rate, 0.83; death rate from respiratory diseases, 2.70.

When compared with the corresponding rates for the preceding year the birth rate, alone, shows a decrease, viz., of 0.02; each of the remaining rates have increased as follows:—General death rate, 0.99; zymotic death rate, 0.30; infant mortality rate, 43.39; Phthisis death rate, 0.20; respiratory death rate, 1.76.

Two hundred and forty-nine births were registered during the year and one hundred and twenty-three deaths; of the latter, twenty-seven were of children under one year, and thirty-six of persons sixty-five years and upwards.

Thirty-five cases of infectious disease were notified as follows:—Diphtheria and Membranous croup, 20; Scarlet fever, 5; Enteric fever, 5; Erysipelas, 5.

Eleven deaths occurred from zymotic disease, viz.:—Diarrhœa, 5; Diphtheria and Membranous croup, 2; Whooping cough, 2 and Continued fever, 2.

Phthisis caused 8 deaths; respiratory diseases, 26; heart diseases, 13; accidents, 2; premature birth, 5.

The death rate from respiratory diseases was the second highest recorded in the rural districts of the administrative county.



The medical officer divides his district into five sub-districts, for each of which he gives the births and birth rate, the various mortality rates, the cases of infectious disease notified and the attack rate of the latter per 1,000 population.

| Sub-districts.               | Popu-<br>lation. | Births. |                          | Deaths. |                          | Infant<br>deaths. |                             | Zymotic<br>deaths. |                          | Infectious<br>diseases. |                                 |
|------------------------------|------------------|---------|--------------------------|---------|--------------------------|-------------------|-----------------------------|--------------------|--------------------------|-------------------------|---------------------------------|
|                              |                  | No.     | Rate<br>per 1000<br>pop. | No.     | Rate<br>per 1000<br>pop. | No.               | Rate<br>per 1000<br>births. | No.                | Rate<br>per 1000<br>pop. | No.<br>notified.        | Attack<br>rate per<br>1000 pop. |
| Haltwhistle ...              | 3,873            | 128     | 33·3                     | 55      | 14·2                     | 16                | 125·0                       | 6                  | 1·5                      | 28                      | 7·2                             |
| Melkridge and<br>Henshaw ... | 1,175            | 30      | 25·5                     | 20      | 17·0                     | 3                 | 100·0                       | 3                  | 2·5                      | 1                       | 0·8                             |
| Blenkinsopp<br>and Thirlwell | 1,600            | 21      | 13·1                     | 11      | 6·8                      | 1                 | 47·6                        | —                  | —                        | 6                       | 3·75                            |
| Lambley and<br>Hartleyburn   | 885              | 19      | 21·4                     | 9       | 10·1                     | 2                 | 95·2                        | 1                  | 1·1                      | —                       | —                               |
| Rest of district             | 2,073            | 51      | 24·6                     | 28      | 13·5                     | 5                 | 98·0                        | 1                  | 0·4                      | —                       | —                               |
| Whole district               | 9,606            | 249     | 25·92                    | 123     | 12·80                    | 27                | 108·43                      | 11                 | 1·14                     | 35                      | 3·64                            |

An analysis of the above table indicates that the birth rate, the general death rate, the infant mortality rate and the death rate from zymotic diseases were all higher in the Haltwhistle and in the Melkridge and Henshaw divisions than in the other sub-districts; also that of the thirty-five cases of infectious disease notified, twenty-eight (including fifteen of Diphtheria and five of Enteric fever), occurred in the Haltwhistle sub-division.

Of the five cases of Enteric fever, four occurred in one house. The water supply was examined bacteriologically and found to be in a good condition and the medical officer is of opinion that "the cause might be attributed to the local insanitary conditions."

When on the subject of Measles, the medical officer points out that, although no deaths were recorded from this disease, it should be regarded much more seriously by parents than is usually the case on account of the complications which frequently ensue.

In commenting on the deaths from Diarrhœa, the medical officer remarks:—"Dark, badly ventilated dwellings and damp surroundings play an important part in the propagation of this disease. Light airy dwellings, to minimise, as far as possible, the breeding of flies, and the abolition of large privy middens should be encouraged. The substitution of bins would be a great improvement. The pernicious habit of depositing garbage in these large ashpits is most objectionable and should be strictly dealt with. Free use of water for drain flushing should be advised. The cementing out, or otherwise rendering impervious to moisture, all back yards, should be insisted on as far as possible, as slop water lying about and soaking in the soil, pollutes the ground air in the immediate neighbourhood."

In commenting upon the increase in the Phthisis death rate, the medical officer suggests that advantage should be taken of sanatorium treatment when possible and "for the protection of persons obliged to live in contact with persons suffering from Phthisis, free ventilation, fresh air, avoidance of overcrowding, strict cleanliness and the disinfection and destruction of all discharges of affected persons should be observed."

*Factory and Workshop Act.*—Ten factories and twenty-nine workshops were on the register and the inspections made during the year were fifteen and forty-two respectively. Six written notices were

served requiring the abatement of eight nuisances; these were all remedied. There were no domestic factories, underground bakehouses or home-workers in the district.

*Dairies and Cowsheds.*—Twenty-two premises were on the register and forty-five visits of inspection were paid. The medical officer emphasises the necessity of cleanliness in cowsheds and of milkers, without which a pure and clean milk supply is impossible. The report indicates that several improvements in the sanitary condition of cowsheds were effected.

*Improvements.*—The water supply for the Haltwhistle sub-district was perfectly satisfactory throughout the year and the distribution was improved by the laying of three hundred and fifty yards of new water mains. A scheme for providing an improved supply to about forty houses on the north side of the town was again considered and there appeared to be a prospect of its being carried out.

At Melkridge the second section of pipes were laid in connection with the scheme entered upon some time ago, the completion of which will give this village a pure and abundant water supply.

An improved water supply was obtained for several houses in the Ayle district, a very satisfactory scheme having been carried out by several property owners in co-operation.

Improvements in the ventilation of sewers at Haltwhistle were carried out by the erection of additional ventilating shafts. The council decided to carry out certain much-needed improvements at the irrigation ground, but the work was not undertaken during the year under review.

Several insanitary privies and ashpits were abolished in the Haltwhistle sub-district and water closets substituted.

*Requirements.*—Improved water supplies were still needed for Haltwhistle (north side), Longbyre, Gilsland and Melkridge. A service reservoir for Haltwhistle was an unfulfilled requirement at the end of the year.

An improved system of sewerage and drainage was required for Greenhead, Longbyre and Gilsland.

Considerable alteration was required in the method of dealing with sewage at the Haltwhistle irrigation grounds.

Provision for the isolation of patients suffering from infectious disease, in this district, was still an urgent requirement.

The medical officer's annual report should be printed and the tables required by the Local Government Board and the Home Office should be incorporated, so that the report may be available for consideration by ratepayers interested in public health matters.

#### HEXHAM.

Medical Officer of Health, T. CUNNINGHAM PENFOLD, M.B., C.M.,  
M.R.C.S., L.R.C.P., D.P.H.

Area, 200,700 acres; estimated population, 28,077; birth rate, 25.10; general death rate, \*13.64; zymotic death rate, 0.60; infant mortality rate (per 1,000 births), 120.56; Phthisis death rate, 0.99; death rate from respiratory diseases, 1.85.

When compared with the corresponding rates for the preceding year the Phthisis death rate shows a decrease, viz., 0.11. The remaining rates have increased as follows:—Birth rate by 1.47; general death rate, 0.32; zymotic death rate, 0.04; infant mortality rate, 31.44 and respiratory death rate, 0.25.

Seven hundred and five births were registered during the year and three hundred and eighty-three deaths; of the latter, eighty-five were of children under one year and one hundred and twenty-four of persons sixty-five years and upwards.



One hundred and eighty-six cases of infectious diseases were notified as follows:—Diphtheria and Membranous croup, 96; Scarlet fever, 54; Erysipelas, 26; Enteric fever 8 and Anthrax 2.

Seventeen deaths occurred from zymotic disease, viz.:—Diarrhœa, 6; Diphtheria and Membranous croup, 5; Whooping cough, 5; Enteric fever, 1.

Phthisis caused 28 deaths; respiratory diseases, 52; heart diseases, 54; accidents, 16 and premature birth, 12

It will be noted, from the following table, that in the Bywell sub-division were recorded the highest birth rate as well as the highest mortality rates; the attack rate from notifiable infectious diseases was the second highest in this rural district.

| Sub-district.  | Popu-<br>lation. | Births. |                          | Deaths. |                          | Infant<br>deaths. |                              | Zymotic<br>deaths. |                          | Infectious<br>diseases. |                                 |
|----------------|------------------|---------|--------------------------|---------|--------------------------|-------------------|------------------------------|--------------------|--------------------------|-------------------------|---------------------------------|
|                |                  | No.     | Rate<br>per 1000<br>pop. | No.     | Rate<br>per 1000<br>pop. | No.               | Rate<br>per 1,000<br>births. | No.                | Rate<br>per 1000<br>pop. | No.<br>notified.        | Attack<br>rate per<br>1000 pop. |
| Allendale ...  | 4,778            | 87      | 18·2                     | 70      | 14·6                     | 9                 | 103·4                        | 1                  | 0·2                      | 42                      | 8·7                             |
| Bywell ...     | 13,469           | 426     | 31·6                     | 209     | 15·5                     | 58                | 136·1                        | 11                 | 0·8                      | 103                     | 7·6                             |
| Chollerton ... | 5,423            | 108     | 19·8                     | 55      | 10·1                     | 8                 | 74·0                         | 2                  | 0·3                      | 21                      | 3·8                             |
| Hexham ...     | 4,402            | 84      | 19·0                     | 54      | 12·2                     | 10                | 119·0                        | 3                  | 0·6                      | 20                      | 4·5                             |
| Whole district | 28,077           | 705     | 25·10                    | 388     | 13·81                    | 85                | 120·56                       | 17                 | 0·60                     | 186                     | 6·62                            |

Owing to the prevalence of infectious disease, the following schools were closed for the periods named:—Ninebanks Council, February 3rd to March 16th (Mumps); Hedley-on-the-Hill, March 9th to March 30th (Measles); Ovington C.E., October 9th to November 2nd (Diphtheria); Haydon Bridge, November 4th to December 31st (Diphtheria).

Commenting on the increasing incidence of Diphtheria in this district, the medical officer states that Diphtheria is unfortunately becoming the most formidable disease with which the authority has to deal, and expresses the opinion that “there is no doubt whatever that the association of large numbers of children in schoolrooms, often not too well ventilated, is responsible for much, whilst the desire for the attainment of the highest possible average attendance leads to the sending back of children who have suffered from disease sometimes sooner than is desirable.”

An epidemic of Mumps of an unusually severe type occurred at Ninebanks during the months of February and March.

Scarlet fever was not so prevalent as in former years, the majority of the cases occurred in the Bywell sub-district where the disease is reported to be “almost endemic.” It may be noted that five of the eight cases of Enteric fever which were notified occurred in the district last-mentioned. It is, however, satisfactory to note that the Bywell sub-division, which up to recently possessed such an unenviable notoriety for infectious diseases, has been much more free from them during the last five years; thus, whereas for the years 1903 and 1904 the attack rate was the highest in the Bywell division, during each subsequent year, including the year under review, the highest attack rate has never been registered in the above-named division. The infant mortality rate, however, and the death rate from zymotic diseases have each been persistently higher in this than in any other locality since the year 1902. This is the most densely populated division and the one in which any insanitary conditions of living would necessarily exert a more detrimental influence upon the inhabitants than in any of the other sub-districts.

*Factories and Workshops.*—Eighty-six workshops were on the register and one hundred and eighteen inspections were made, with the result that, in all, eighty-six contraventions of the Act were met with, eighty of which were remedied before the end of the year. Sixty-two factory inspections were also made and ten notices were served regarding nuisances, etc., met with. This is another of the districts in which the Factory and Workshop Act imposes a great amount of extra work upon the authority's officials.

*Dairies and Cowsheds.*—The number of these premises on the register was ninety-eight, an increase of nineteen when compared with the previous year. All these premises were visited by the medical officer and sanitary inspector and, in June, a special report was prepared and submitted to the Local Government Board. In ten cases the premises were not sufficiently clean and in three they were reported to be "scandalously dirty." In one of the latter cases, the conditions complained of have been so little improved that the medical officer regards it as being "questionable whether steps should not be taken to prohibit the sale of milk from this dairy." Attention is also called to the fact that "milk purveyors frequently fail to realise the danger which exists of milk being the means of spreading infectious diseases. "One finds people allowed to milk with sore throats, and at least two "localised outbreaks of Diphtheria during the past year have been due "to the contamination of the milk supply, whilst Scarlet fever is not "infrequently carried by the same agency."

*Slaughter Houses.*—The number of these premises is not stated. They were visited at various times by the sanitary inspector and are reported to have been kept, generally, in a clean state, though, in thirteen cases, it was found necessary to serve notice on the occupier requiring the removal of offensive garbage.

*Improvements.*—Plans for the erection of a considerable number of houses, etc., and for improvements to existing houses were passed by the council during the year and thirty-five new houses were occupied.

The Newcastle and Gateshead Water Company's mains were extended at Broomley (313 yards) and Prudhoe Castle (120 yards). Kiln Pit Hill was supplied from a source near Barlow Hill. In nine cases notices were served on the owners or occupiers of premises, requiring them to carry out improvements to storage cisterns, water fittings, etc., but the report does not state whether the notices were complied with during the year. A supply of water for the village of Wall and an additional reservoir for Corbridge were under consideration during the year.

Considerable improvements in the sewerage and drainage of various localities were effected, namely:—At Allenheads a stone conduit was replaced by a modern pipe sewer one hundred and twenty yards in length. At Catton Lane foot a sewer two hundred yards in length was laid and a sewage disposal system provided. At Hedley-on-the-Hill, works for the disposal of sewage were completed. At Barrasford a sewer more than two hundred yards in length was constructed in order to divert the sewage from a water course and conduct it to the new disposal works near the North Tyne; at Haydon Bridge the construction of a six-inch sewer, about seven hundred yards in length was the means of remedying a serious nuisance caused by a number of houses being drained to an open ditch. Further improvements in this direction were contemplated, *i.e.*, a sewerage scheme for Riding Mill and Broomhaugh was awaiting the sanction of the Local Government Board. An engineer was directed to prepare a sewerage scheme for the village of Acomb. An extensive sewerage scheme was contemplated at Broomley.

The provision of new privies and ashpits at Mickley Square by the Mickley Coal Company was in progress.

Some improvements in the paving of streets were being effected during the year at Mickley Square.



One hundred and ten notices were served by the sanitary inspector requiring owners or occupiers to carry out various improvements in the drainage of their premises. If all these were complied with, the sanitary conditions in the immediate vicinity of many houses and other premises will have been considerably improved.

In all, six hundred and seventy-five notices were served by the sanitary inspector requiring the abatement of various nuisances which are set out in detail, and two hundred and ten notices were served requiring the disinfection of schools, houses, etc.

*Isolation Hospital.*—An indirect telephonic communication, between the hospital and the medical officer's house was made possible, and the road between Smithson's corner and the hospital was practically re-made.

*Requirements.*—An improved water supply for High Mickley was still unprovided, though arrangements were made with the Newcastle and Gateshead Water Company to extend their mains in this direction.

Application was made to the Local Government Board for sanction to borrow £3,800 for works of water supply for the township of Haydon. The Haydon Bridge water scheme, prepared by Messrs. Taylor, Wallin and Taylor, had not been commenced at the end of the year. Improvements in the water supplies in several of the more isolated farms were still urgently needed, notably, at Horsley Barns, Park Shields, and at the Field Head, Ebchester.

Many improvements in the drainage of the village of Ovington were needed and, at Riding Mill, Broomhaugh, Acomb and Broomley, the contemplated improvements in sewerage and drainage were still unfulfilled.

Measures were also needed for preventing the pollution of the River Tyne at North Wylam, Prudhoe, Ovingham, Stocksfield, Riding Mill, Warden, Fourstones, Allerwash, Haydon Bridge and Haltwhistle, and also of the Hagg Burn, the Cockermere Burn (which receives sewage from Ovington), the Cockshaw Burn (which joins the Tyne at Hexham), the North Tyne (which receives sewage from Wall, Humshaugh, Barrasford and Bellingham), the Poison Burn (which receives crude sewage from Acomb) and the River Allen—all tributaries of the River Tyne.

The condition of many of the sanitary conveniences in various parts of the district was also a matter urgently requiring attention, *e.g.*, privies discharging their contents directly into the River Tyne at Haydon Bridge and into the Poison Burn at Acomb. Many uncovered, badly constructed and, in some cases, dilapidated privies and ashpits need reconstructing or replacing by more sanitary arrangements.

The scavenging of West Mickley was neglected to a disgraceful degree in spite of repeated visits of and notices from the sanitary inspector. Reference has been made, on a former occasion, to the number of obstructive buildings which exist in more than one portion of this large rural district—houses built back to back or back to end; attention has also been directed to the deleterious effects of houses thus crowded upon restricted sites without due provision for ventilation or for the admission of sunlight. Many examples of the above were to be found, especially in West Wylam, Prudhoe, Low Prudhoe and Mickley Square, etc., all in the Bywell division, and others at Newbrough and Acomb in the Chollerton sub-district.

The Sanitary Authority have also been reminded of the insanitary condition of numerous yards, partially or entirely unpaved; of the insufficient privy accommodation provided for several families; of the many privy ashpits structurally insanitary, in numerous cases uncovered in many instances sunk below the ground level, leaky, receiving roof water from adjoining buildings, and so situated as inevitably to be the

cause of serious nuisance; of the entire absence of drainage for some houses; of dwelling houses with damp walls and defective roofs; of inadequate water supplies; of uneven surface channels used as sewers and composed of porous material, badly laid and badly jointed; of slaughter houses and cowsheds, the condition of which left much to be desired. Many of the above-named conditions were unchanged and were in urgent need of alteration at the close of the year under review.

\* 13·81 if the deaths of six residents which occurred outside the district be added, and the death of one non-resident which occurred within the district be deducted.

#### MORPETH.

Medical Officer of Health, J. P. PHILIP, M.D., D.P.H.

Area, 85,498 acres; estimated population, 18,000; birth rate, 28·88; general death rate, \*18·11; zymotic death rate, 1·94; infant mortality rate (per 1,000 births), 155·76; Phthisis death rate, 0·72; death rate from respiratory diseases, 1·50.

When comparisons are made with the corresponding rates for the preceding year, the Phthisis rate alone shows a decrease (of 0·52); the remaining rates show increases as follows:—Birth rate, 0·95; general death rate, 1·60; zymotic death rate, 1·04; infant mortality rate, 56·47; respiratory death rate, 0·32.

Five hundred and twenty births were registered during the year and three hundred and twenty-six deaths; of the latter, eighty-seven were of persons who, though inmates of public institutions in the district, belonged to other localities in the county, leaving two hundred and thirty-nine who actually belonged to the district. Eighty-one deaths were of children under one year and forty-two of persons sixty-five years and upwards.

One hundred and seventy-eight cases of infectious diseases were notified as follows:—Scarlet fever, 82; Diphtheria and Membranous croup, 72; Enteric fever, 14; Erysipelas, 10.

Thirty-five deaths occurred from zymotic diseases, viz.:—Whooping cough, 11; Diarrhœa, 11; Measles, 6; Diphtheria and Membranous croup, 4; Enteric fever, 3.

Phthisis caused 13 deaths; respiratory diseases, 27; heart diseases, 22; accidents, 13 and premature birth, 29.

The birth rate, infant mortality rate and zymotic death rate were each the second highest, and the Phthisis death rate was the lowest, recorded in the rural sanitary districts of the administrative county.

The medical officer, for the purpose of comparison, divides the district, as usual, into two parts, Colliery and Agricultural, the dividing line being practically the main road between Morpeth and Felton, the colliery portion lying to the east.

The following table indicates, for each sub-division, the population, the vital statistics, the notifications of infectious disease and the attack rate of the latter per 1,000 of the population.

| Sub-districts.     | Popu-<br>lation. | Births. |                          | Deaths. |                          | Infant<br>deaths. |                             | Zymotic<br>deaths. |                          | Infectious<br>diseases. |                                 |
|--------------------|------------------|---------|--------------------------|---------|--------------------------|-------------------|-----------------------------|--------------------|--------------------------|-------------------------|---------------------------------|
|                    |                  | No.     | Rate<br>per 1000<br>pop. | No.     | Rate<br>per 1000<br>pop. | No.               | Rate<br>per 1000<br>births. | No.                | Rate<br>per 1000<br>pop. | No.<br>notified.        | Attack<br>rate per<br>1000 pop. |
| Colliery districts | 13,500           | 459     | 34·0                     | 212     | 15·70                    | 75                | 163·3                       | 34                 | 2·5                      | 169                     | 12·4                            |
| Agricultural „     | 4,500            | 61      | 13·5                     | 32      | 7·11                     | 6                 | 98·3                        | 1                  | 0·2                      | 9                       | 2·0                             |
| Whole district ... | 18,000           | 520     | 28·88                    | †244    | 13·55                    | 81                | 155·76                      | 35                 | 1·94                     | 178                     | 9·88                            |

† This number is obtained by subtracting from the number of deaths registered in the district (326) the deaths of persons belonging to other localities occurring in the district (87) and adding the number of deaths of residents which took place beyond the district (5).



From the above table it will be seen that the birth rate and general death rate were each, in the Colliery districts, more than double those recorded for the Agricultural division, that the infant mortality rate was 65 per 1,000 births higher in the former than in the latter sub-division, that the zymotic death rate was twelve times, and the attack rate from the infectious disease six times, as high in the Colliery as in the Agricultural division.

The medical officer, in commenting on the increased incidence of infectious disease during the year under review, points out that, as regards Diphtheria and Scarlet fever, the exceedingly mild character of many of the cases has favoured the spread of disease inasmuch as, frequently, no efficient isolation was attempted.

The medical officer further states he has frequently found that children attend school while suffering from Diphtheria and Scarlet fever.

He further suggests that no child should be allowed to return to school, after an attack of Diphtheria, until the medical attendant certifies, on bacteriological proof, that it has ceased to harbour the germs of the disease and that, if the school authorities insisted upon these certificates being obtained and allowed the medical attendant a small fee for each certificate sent to them, the cost would be repaid many times over.

The following table shows the various parishes in which any of the notifiable infectious diseases occurred and the number notified from each parish. The value of the table is greatly discounted owing to the population of each locality not being known, it has, therefore, been impossible to add a column showing the attack rate per 1,000 of the population.

| Sub-districts.                 | Enteric fever. | Erysipelas. | Scarlatina. | Diphtheria and Membranous Croup. | Totals. |
|--------------------------------|----------------|-------------|-------------|----------------------------------|---------|
| North Seaton ... ..            | 1              | 1           | 38          | 5                                | 45      |
| Pegswood ... ..                | 8              | —           | 7           | 6                                | 21      |
| Widdrington and Bus Row ...    | —              | 2           | 30          | 1                                | 33      |
| Stobswood ... ..               | —              | —           | —           | 1                                | 1       |
| Broomhill and Chevington Drift | 3              | 5           | —           | 36                               | 44      |
| Cresswell and Ellington ...    | —              | —           | —           | 10                               | 10      |
| Longhirst ... ..               | —              | —           | —           | 11                               | 11      |
| Woodhorn and Hirst ... ..      | 1              | 2           | —           | 2                                | 5       |
| Agricultural ... ..            | 1              | —           | 6           | —                                | 7       |
| Asylum ... ..                  | —              | —           | 1           | —                                | 1       |
| Totals ... ..                  | 14             | 10          | 82          | 72                               | 178     |

Whooping cough and Measles were both epidemic at Pegswood in the earlier months of the year. The first-named disease was prevalent at North Seaton, Chevington Drift and Broomhill during May, June and July, and at Pegswood in November; Measles occurred in the Widdrington district during the summer.

*Factory and Workshop Act.*—Nine workshops were on the register, of which one was a bakehouse; there were two factories in the district. Twenty-four inspections were made, four of factories, twelve of workshops and eight of workplaces. No contraventions of the Acts were met with.

*Dairies and Cowsheds.*—The number on the register is not stated. They were regularly inspected and found to be “in a fairly satisfactory condition.” The medical officer, in his report, urges on cowkeepers the necessity for absolute cleanliness, both of the buildings and of the milch cows and further points out that no cow should be used for dairy

purposes that is suffering from a cough or gradual emaciation, as these symptoms so often indicate the presence of Tuberculosis.

*Slaughter Houses.*—The number on the register is not stated. They were inspected regularly and found to be in a satisfactory state.

*Improvements.*—Housing.—Seventy new houses were inhabited during the year and plans for the erection of fourteen additional houses and for alterations and additions to six existing houses were passed by the council. The medical officer states that the houses built during the last few years have been of a greatly improved type. Action was taken by the council with a view to obtaining the closure of the houses at Chevington Wood Row and Wood Row, Stobswood. The owners in the former case decided to close the houses without waiting for legal proceedings to be taken, but the council acceded to the wishes of a deputation of the tenants that the closure should be postponed and it will not take effect until June 1910. At Stobswood Wood Row the owners agreed to carry out certain improvements, in consequence of which the closure of the houses was postponed. The dwelling houses at Granby Buildings, North Seaton, were improved by filling in the cellars and by the provision of cement concrete floors to all downstairs rooms. At the Hall cottages, Tritlington, several structural improvements were carried out.

An improved water supply was provided at one dairy farm.

The sewerage scheme at North Seaton Colliery was improved by the laying of two hundred and fifty-seven lineal yards of new sewers, including an eight-inch cast-iron outfall sewer over the foreshore, discharging into the tidal waters of the River Wansbeck. Trapped gullies were provided for some of the open channel sewers in this locality. Other improvements to drainage were effected at Tritlington; at Ellington; Hepscott, Barmoor (for six cottages); Longhirst and Netherwitton Schools; Longhorsley; Dyke Nook, Clay House and Penny Hill, Meldon; Tritlington Hall Cottages and the School and School House at Netherwitton; also settling tanks and filter beds for the treatment of sewage were constructed at Coneygarth Farm, Bothal Demesne; at Dyke Nook, Clay House and Penny Hill; at North Seaton Links and at Pegswood.

Additions and improvements to the sanitary accommodation of houses were carried out at Ellington, Mitford, North Seaton and Pegswood.

A great improvement is reported in the manner in which scavenging operations were carried out during the year. With the exception of one township, this work was carried out by the tenants throughout the district. The medical officer considers that, if the council were to undertake the work, it might be done at a cheaper rate per house and more effectively than under the present conditions.

Thirty-six notices were served requiring the abatement of nuisances, and in only three instances was it necessary to issue statutory notices in order to secure the carrying out of the necessary work.

*Requirements.*—Additional housing accommodation was very much required at Bus Square, North Broomhill, Chevington Drift and Middle Steads and at Widdrington, Stobswood and North Seaton; at the three places last mentioned considerable overcrowding was to be found.

The general housing conditions in many parts of this extensive district leave much to be desired. Houses without through ventilation, others in which the lighting or ventilation, or both, is totally insufficient, many with practically no bedroom accommodation, and wooden houses in various stages of dilapidation exist in the several sub-divisions of this district. Instances of one or more of the above conditions, urgently calling for the attention of the district council, were to be found at Chevington; West Chevington; Widdrington Colliery; Bus Square; Stobswood Colliery and Stone Row, North Broomhill, etc.



The provision of a better water supply for Widdrington Steads and other farms in this locality and also for Hartburn School, North Middleton and Longhirst, has long been urgently needed.

At Chevington Drift, in two cases, six taps are provided for eighty-seven houses, and although the source of the water supply is satisfactory, the pressure at which it is distributed is very insufficient and leads to considerable inconvenience to the users.

The sewerage and drainage in many localities has been, for a long time in a most unsatisfactory condition, notably at Chevington Drift where the open channel sewers, situate from sixty to eighty feet from the houses, are badly flushed and impossible to keep in a satisfactory condition owing to the proximity of the coal-houses and ashpits, and the intervening paths, never properly made up, are quagmires in wet weather; also at Widdrington Colliery, Bus Row, North and South Broomhill, North Seaton Colliery and Chevington Crescent, where open channel sewers, often badly laid and frequently offensive owing to insufficient flushing and their proximity to houses, are still the only means provided for the disposal of household waste water. At Chevington Wood Houses and Widdrington Stamp Steads, no means of drainage whatever are provided; at Ellington, sewage is still being discharged into a roadside ditch.

The Steads Burn, Chevington Burn and Lady Burn, or their tributaries are still polluted by untreated sewage from Widdrington and Stobswood Collieries, Widdrington Village (portion of), Bus Row and Bus Square, Chevington Colliery, Broomhill Colliery, Chevington Drift, Chevington Crescent, etc. and the Tritlington and Lyne Burns and their tributaries by untreated sewage from Linton Colliery and a number of other places included in the county medical officer's report of May 6th. 1908.

Measures should also be adopted to prevent the pollution of several other watercourses in this district by sewage, and considerable improvement is necessary in the methods adopted for dealing with sewage at various places.

The abolition of the insanitary privy middens which exist in almost every part of this district and the substitution of water closets or earth closets is extremely desirable.

Improvements to roads and footpaths are desirable in several localities, more especially at Widdrington Colliery and Chevington Drift. Some of the colliery roads have never been properly made up and in some districts there is a total absence of footpaths; consequently not only is a very unnecessary amount of dirt carried into the houses during wet weather, but children frequently get their feet wet in walking to and from school. Amongst the worst examples of unmade footpaths for comparatively new houses are those at Chevington Drift, at which place there are long rows of houses along the front of which is a narrow passage-way between the small yards, for the most part unpaved, and the gardens. The passage-ways cannot be called footpaths as, in wet weather, they consist, to a great extent, of pools of water rather than of path, and as the only drain is a surface channel about thirty yards distant, *i.e.*, at the other end of the gardens, the overflow from the rain barrels gravitates to the so-called footpaths and on several occasions during the year under review the floor of the living room in some of the houses is reported to have been flooded. At the back of Hedgehope Terrace, a cement surface channel is provided for roof water; the gully into which this channel discharges is either too small to receive the volume of roof water from one side of a row of eighty-one houses, or the drain is liable to be blocked, consequently the road between Hedgehope and Hartside Terraces is flooded from side to side during wet weather.

\* 13·55 if 87 deaths of non-residents occurring in the district are deducted, and if five deaths of residents occurring without the district be added.

## NORHAM AND ISLANDSHIRES.

Medical Officer of Health, J. PAXTON, L.R.C.P., L.R.C.S.

Area, 47,072 acres; estimated population, 6,054; birth rate, 24.94; general death rate, 15.69; zymotic death rate, 0.33; infant mortality rate (per 1,000 births), 92.71; Phthisis death rate, 1.15; death rate from respiratory diseases, 0.99.

When compared with the rates for the preceding year, increases are shown in all cases as follows:—The birth rate was increased by 2.99; general death rate, 0.50; zymotic death rate, 0.17; infant mortality rate, 32.56; Phthisis death rate, 0.49; respiratory death rate, 0.17.

One hundred and fifty-one births were registered during the year and ninety-five deaths; of the latter, fourteen were of children under one year, and thirty-nine of persons sixty-five years and upwards.

Twenty-six cases of infectious disease were notified as follows:—Diphtheria and Membranous croup, 14; Erysipelas, 9; Scarlet fever, 3.

Two deaths occurred from zymotic disease, viz.: from Diphtheria.

Phthisis caused 7 deaths; respiratory diseases, 6; heart diseases, 24; accidents 3 and premature birth 7.

It is estimated that the population has remained stationary since the 1901 census.

The general death rate and the Phthisis death rate were each the highest recorded among rural districts in the county; on the other hand, the infant mortality rate was the second lowest and the respiratory death rate the third lowest recorded in rural districts.

The prevalence of Whooping cough and Diphtheria necessitated the temporary closure of the Horncliffe and Norham Schools.

*Factories and Workshops.*—It is stated, in the medical officer's report, that the factories numbered four and the workshops twelve. A register of the latter is now kept in accordance with the provision of Sec. 131 of the Factory and Workshop Act. Eighteen inspections were made of the factories, and thirty-six of the workshops; in none were any defects or contraventions of the Act met with.

*Dairies and Cowsheds.*—The number of these premises on the register is not given. Six additional cowkeepers were registered during the year. All the premises were periodically inspected and found to be in good order. Four cases of Anthrax occurred in the district, each in a different locality.

*Improvements.*—Plans for the erection of two houses and for additions and alterations to five existing houses were approved by the council. Improvements to farm cottages were effected at Cheswick Buildings, East Newbiggen, East Loanend, Ord Moor and West Ord.

At Norham, the Vicarage, the Police Station and one house were supplied with water from the main supply. A new and good supply of water was also provided for Boathouse Farm.

A new sewer was laid at Bell's Field, Holy Island, in lieu of an old and defective one. A filter was added to the drainage scheme provided for the station premises at Cornhill with a view to ensuring a good effluent into the burn.

Bye-laws relating to new streets and buildings were confirmed by the Local Government Board during the year under review.

*Requirements.*—The sewerage and drainage systems at Norham and Cornhill should receive the careful consideration of the Sanitary Authority.



A refuse tip was needed for Norham, and considerable alteration to the school or the provision of a new school was urgently required.

The official tables required by the Local Government Board and Home Office should be printed with the medical officers annual report ; without these the report is incomplete.

#### ROTHBURY.

Medical Officer of Health, F. BARROW, M.R.C.S., L.S.A.

Area, 166,904 acres ; estimated population, 4,830 ; birth rate, 20.70 ; general death rate, \*13.25 ; zymotic death rate, 0.20 ; infant mortality rate (per 1,000 births), 110.0 ; Phthisis death rate, 0.82 ; death rate from respiratory diseases, 1.03.

The zymotic death rate is the same as that recorded for the two preceding years ; the general death rate shows a decrease of 0.64 and the remaining rates have increased as follows :—Birth rate, 0.30 ; infant death rate, 20.00 ; Phthisis death rate, 0.21 and respiratory death rate, 0.01.

One hundred births were registered during the year and sixty-four deaths ; of the latter eleven were of children under one year, and thirty-one of persons sixty-five years and upwards.

Ten cases of infectious disease were notified as follows :—Erysipelas 5, Diphtheria and Membranous croup 2, Scarlet fever 2 and Puerperal fever 1.

One death occurred from zymotic disease, viz. :—Whooping cough.

Phthisis caused 4 deaths ; respiratory diseases, 5 ; heart diseases, 14 ; accidents, 1 and premature birth, 2.

The birth rate and zymotic death rate were the second lowest, and the general death rate was the third lowest recorded in the rural districts of the administrative county.

The medical officer divided his district into seven localities and the following table indicates the various rates which obtained in each of the seven sub-districts, and also the attack rate per 1,000 of the population from notifiable infectious disease.

| Sub-districts.                | Popu-<br>lation. | Births. |                          | Deaths. |                          | Infant<br>deaths. |                              | Zymotic<br>deaths. |                          | Infectious<br>diseases. |                                 |
|-------------------------------|------------------|---------|--------------------------|---------|--------------------------|-------------------|------------------------------|--------------------|--------------------------|-------------------------|---------------------------------|
|                               |                  | No.     | Rate<br>per 1000<br>pop. | No.     | Rate<br>per 1000<br>pop. | No.               | Rate<br>per 1,000<br>births. | No.                | Rate<br>per 1000<br>pop. | No.<br>notified.        | Attack<br>rate per<br>1000 pop. |
| Rothbury<br>(Rural portion)   | 1,350            | 18      | 13.3                     | 23      | 17.0                     | 3                 | 166.6                        | 1                  | 0.74                     | 4                       | 2.9                             |
| Alwinton ...                  | 860              | 26      | 32.3                     | 7       | 8.1                      | 2                 | 76.9                         | —                  | —                        | 1                       | 1.1                             |
| Whittingham                   | 780              | 16      | 20.5                     | 11      | 14.1                     | 1                 | 62.5                         | —                  | —                        | —                       | —                               |
| Long Fram-<br>lington         | 490              | 9       | 18.3                     | 6       | 12.2                     | —                 | —                            | —                  | —                        | 1                       | 2.0                             |
| Alnham and<br>Brinkburn       | 370              | 10      | 27.0                     | 1       | 2.7                      | 1                 | 100.0                        | —                  | —                        | —                       | —                               |
| Cambo and<br>Elsdon           | 570              | 7       | 12.2                     | 7       | 12.2                     | —                 | —                            | —                  | —                        | 1                       | 1.7                             |
| Longhorsley &<br>Netherwitton | 410              | 14      | 34.1                     | 6       | 14.6                     | 4                 | 285.7                        | —                  | —                        | 3                       | 7.3                             |
| Whole district                | 4,830            | 100     | 20.70                    | 61      | 12.62                    | 11                | 110.00                       | 1                  | 0.20                     | 10                      | 2.07                            |

Influenza was very prevalent in nearly all parts of the district, its incidence upon children being very marked. School closure was necessary on account of this disease as follows :—Thropton, Netherton, Holystone and Long Framlington in February ; Hepple and Wingates in March, Callaly in April and Hepple again in December.

With a view of arresting, as far as possible, the spread of Phthisis, the medical officer issued to householders printed instructions relating to preventive measures which should be adopted in these cases.

*Factory and Workshop Act.*—Nine workshops were on the register in this district, of which one was a bakehouse. Visits of inspection were paid to each, and one contravention (insufficient sanitary accommodation) was met with and referred to H.M. Inspector of Factories.

*Dairies and Cowsheds.*—The number of these premises on the register is not stated, but the majority are reported to have been kept in a satisfactory condition. In consequence of an outbreak of Anthrax at Little Mill, the milk supply to thirty-five customers was suspended for a period of ten days.

*Slaughter Houses.*—With the exception of the statement that the floor of one slaughter house at Whittingham was cemented, no mention of these premises is made in the report.

*Improvements.*—The Font Waterworks were completed and several of the temporary houses at Ewesley were removed. At Long Framlington some old property was greatly improved. At the Old Colliery Cottages the drainage was improved. Several improvements as regards dampness of walls and floors, repairing of roofs and spouts, the provision of new floors and additional windows, etc., were effected in various localities, notably at Whitton Farm, Great Ryle, Fairhaugh, Heigh, Blindburn, Carshope, Rowhope and Trows. A cottage was built at Rothley.

New water supplies were provided at Blue Burn, Moral Hirst, Lee Lane, Small Dene, The Shaw and The Mountain. The water standpipes at Long Framlington were repaired and put in order by the council. A considerable number of improvements were effected in the drainage of houses and other premises at the following places:—Chirm, Brockley Hall, Elsdon, Long Framlington, Little Tosson, Park House, Whitton, Moral Hirst, Little Mill, Wagtail, Healy, Whittingham, Castle Inn, Bridge of Aln, Great Ryle, Mile Moor, Fairhaugh, Blindburn, Carshope, Rowhope and Trows.

Improvements to sanitary conveniences of houses were carried out at Whitton. In eight cases, notices to scavenge the ashpits, etc., were served and complied with.

Improvements in cowsheds were effected at Whitton, Heigh, and Carshope.

*Requirements.*—Improvements to spouting were desirable at Gladstone house, Long Framlington; The School, Rothbury; Elsdon and Whitton Farm Cottages.

The water supplies for houses in the following localities required attention and amendment, viz.:—Forest Burn Gate, Sunnyside, Hesley-hirst, Blaydon Burn, Holling Hill, Little Tosson, Gusset, Hirst and Hesleyside, as was pointed out in the previous annual report, in all the above cases, with the exception of the last-named.

Alterations to the sanitary accommodation or drainage of houses were required at Elsdon, Long Framlington, Whitton Farm Cottages, Lee Sidings, the Cottages at the head of Thropton Village, Thropton Schools and Little Tosson.

Improvements to cowsheds (spouting, paving, ventilation or lighting, etc.) were needed at Elsdon, Long Framlington and Lee Sidings.

*Meteorology.*—The rainfall and sunshine record for this district, furnished by Mr. Bertram of Craggside, is included, as in former years, in the report.

The total rainfall for the year was 30.96 inches, the rainfall for the previous year being 34.12 inches, and the average yearly rainfall for the



ten preceding years being 38.62 inches; the monthly returns varied, June with a rainfall of 0.96 inches being the driest month, and March the wettest with 4.85 inches. The total hours of sunshine were 1,414 as against 1,443 in 1907.

\* 12.62 if the deaths of three non-residents which occurred in the district be deducted.

### TYNEMOUTH, No. 1.

Medical Officer of Health, A. S. TAYLOR, L.R.C.P., L.R.C.S.

Area, 7,929 acres; estimated population, 11,674; birth rate, 26.29; general death rate, 13.44; zymotic death rate, 1.54; infant mortality rate (per 1,000 births), 143.32; Phthisis death rate, 0.94; death rate from respiratory diseases, 1.54.

When compared with the corresponding rates for the preceding year, the general death rate and infant mortality rate show respective increases of 0.01 and 0.47; the remaining rates have decreased as follows:—Birth rate, 1.18; zymotic death rate, 0.03; Phthisis death rate, 0.19; respiratory death rate, 1.16.

Three hundred and seven births were registered during the year and one hundred and fifty-seven deaths; of the latter forty-four were of children under one year, and thirty-eight of persons sixty-five years and upwards.

Ninety-seven cases of infectious disease were notified as follows:—Diphtheria and Membranous croup 46, Enteric fever 21, Erysipelas 18, Scarlet fever 10 and Puerperal fever 2.

Eighteen deaths occurred from zymotic disease, viz.:—Diarrhœa 11. Whooping cough 3, Diphtheria and Membranous croup 2 and Enteric fever 2.

Phthisis caused 11 deaths; respiratory diseases, 18; heart diseases, 9; accidents, 6 and premature birth, 5.

The year was notable for an alarming outbreak of Enteric fever which occurred at Seaton Delaval during August, and was confined practically to one row of houses, viz., Wheatridge Row. Extensive inquiries failed to trace any connection between the occurrence of the disease and water or milk supplies, and the medical officer points out that the only other condition common to the infected houses were the uncovered ash-pits into which fæcal matters are frequently thrown and the swarms of flies which are alternately attracted to these receptacles and to the food stored in the houses.

Only ten cases of Scarlet fever occurred during the year.

Of non-notifiable diseases, Whooping cough, Influenza and Diarrhœa were prevalent, though to a less extent than during former years.

The subjoined table indicates the number of notifiable diseases which occurred in each sub-district:—

| Diseases notified.     | Seaton Delaval. | Hartley. | Horton. | Hartford West. | Hartford East. | Bebside. | Totals. |
|------------------------|-----------------|----------|---------|----------------|----------------|----------|---------|
| Scarlet fever ... ..   | 4               | 6        | —       | —              | —              | —        | 10      |
| Diphtheria ... ..      | 11              | 4        | 7       | —              | 24             | —        | 46      |
| Enteric fever ... ..   | 20              | —        | —       | —              | 1              | —        | 21      |
| Puerperal fever ... .. | 2               | —        | —       | —              | —              | —        | 2       |
| Erysipelas ... ..      | 6               | 5        | 7       | —              | —              | —        | 18      |
| Totals ... ..          | 43              | 15       | 14      | —              | 25             | —        | 97      |

The following table contains statistical information of considerable interest relating to the district as a whole and also to each sub-division:—

| Sub-districts.     | Popu-<br>lation. | Births. |                          | Deaths. |                          | Infant<br>Deaths. |                             | Zymotic<br>Deaths. |                          | Infectious<br>Diseases. |                                 |
|--------------------|------------------|---------|--------------------------|---------|--------------------------|-------------------|-----------------------------|--------------------|--------------------------|-------------------------|---------------------------------|
|                    |                  | No.     | Rate<br>per 1000<br>pop. | No.     | Rate<br>per 1000<br>pop. | No.               | Rate<br>per 1000<br>births. | No.                | Rate<br>per 1000<br>pop. | No.<br>notified.        | Attack<br>rate per<br>1000 pop. |
| Seaton Delaval...  | 5,656            | 140     | 24·7                     | 77      | 13·6                     | 20                | 142·8                       | 8                  | 1·4                      | 43                      | 7·6                             |
| Hartley ...        | 1,876            | 67      | 35·7                     | 19      | 10·1                     | 4                 | 59·7                        | 1                  | 0·5                      | 15                      | 7·9                             |
| Horton ...         | 2,315            | 50      | 21·5                     | 38      | 16·4                     | 6                 | 120·0                       | 6                  | 2·5                      | 14                      | 6·0                             |
| Hartford West...   | 83               | 4       | 48·1                     | 1       | 12·0                     | 1                 | 250·0                       | 3                  | 36·1                     | —                       | —                               |
| Hartford East ...  | 1,686            | 46      | 27·2                     | 22      | 13·0                     | 13                | 282·6                       | —                  | —                        | 25                      | 14·8                            |
| Bebside ...        | 58               | —       | —                        | —       | —                        | —                 | —                           | —                  | —                        | —                       | —                               |
| Whole district ... | 11,674           | 307     | 26·29                    | 157     | 13·44                    | 44                | 143·2                       | 18                 | 1·54                     | 97                      | 8·30                            |

The first table indicates that, with the exception of a solitary case in East Hartford, all the cases of Enteric fever occurred at Seaton Delaval, and that West Hartford and Bebside were entirely free from notifiable infectious diseases.

The second table shows that, while the attack rate per 1,000 population from all the above diseases was pretty uniform in three sub-districts, it was nearly twice as high in East Hartford as in any other division. This is accounted for by the fact that more than half of the Diphtheria cases occurred in the Hartford East sub-district where the water supply, drainage and scavenging were all in an unsatisfactory condition.

No death occurred in the Bebside sub-district from any cause whatever.

Though the infant mortality rate and the zymotic death rate varied very considerably in the various sub-districts, the figures upon which they are calculated are so low that the variation in the above-named rates ceases to be of any great interest; for instance, in West Hartford four births were registered and one of these children died during the first year of life, which makes the infant mortality 250 per 1,000 births, but as the rate is calculated upon one death out of only four births it could not have been less without being nil.

*Factory and Workshop Act, 1901.*—Twenty-six workshops were on the register, an increase of thirteen compared with the preceding year. The factories in the district numbered four. Thirty visits of inspection were made and in only one case were any defects found.

*Dairies and Cowsheds.*—The number of these premises on the register is not stated. The premises were found, with the few exceptions where limewashing was necessary, to be in a satisfactory condition.

*Slaughter Houses.*—No mention of these premises is made in the report.

*Improvements.*—Thirty new houses were built and occupied during the year under review, eighteen at East Hartford, eight at Seaton Sluice and four at Seaton Delaval. As a result of action taken by the district council, five houses were closed, being unfit for human habitation, and in eight other cases houses were improved and made fit for habitation after having been condemned. One case of overcrowding was abated after the service of a statutory notice.

*Water Supply.*—The old and unsatisfactory supply from the East Hartford Colliery to several houses in this locality was discontinued and the water mains were connected to the Tynemouth water mains, which pass through the district. The following farms were also provided with adequate water supplies, viz.:—Hartford West, High Horton and Low Horton Farms and Hartley Red House Farm.

The following street improvements were effected:—The back streets at Melton Terrace, New Hartley, were made up and, in the same locality,



new brick-on-edge footpaths were laid by the colliery owners. Tar macadam footpaths were laid by the council in several parts of the district.

A further section of the open sewer at The Avenue, Seaton Delaval, was improved by the laying of about four hundred yards of glazed sanitary pipes two feet in diameter. The extension of the Hartford sewer was completed. The main sewer at Seaton Sluice was extended to receive the drainage from several new houses. Ventilating columns six inches in diameter were erected in connection with the sewers at Wheatridge Row and Avenue Road, Seaton Delaval. In several cases manhole grids in close proximity to houses were closed in consequence of complaints having been received as to foul emanations therefrom.

A considerable number of drainage improvements were carried out in various parts of the district, chiefly in accordance with notices served by the sanitary inspector. In seven cases drains were relaid or repaired and, in addition, more than five hundred yards of drains were provided, relaid or made efficient. Thirty-six gulley or other traps were fixed, five inspection chambers were built and eleven cast iron soil pipes were provided or rejoined. The drains at Hartford West Farm were reconstructed and a large cesspool provided together with a suitable pump in order that the contents may be periodically distributed over land.

At Bassington cottages a cesspool with overflow discharging upon a filter bed was provided as a means of purifying the sewage previous to its discharge into the Horton Burn.

The sanitary accommodation of houses was improved in five instances, viz., by the abolition of an insanitary privy ashpit in one case, by the provision of two new ash-closets and by repairing two existing privy-ashpits.

*Requirements.*—The conversion of the many back-to-back houses into through houses, notably, at Camp Terrace and Double Row, Seaton Delaval.

The connecting up of all water mains and service pipes at Seaton Delaval with the main pipes so as to secure efficient distribution under all circumstances. The present supply at New Delaval should be discontinued and a supply from the Tynemouth Corporation mains substituted. The completion of the work of covering in the Avenue Head sewer to the sea.

The abolition of all unevenly laid, badly jointed surface channels, which, wherever provided, are the cause of distinct nuisances, and the provision of pipe sewers with trapped gullies.

The provision of ash-closets, especially in Seaton Delaval.

Observation wards at both the Isolation Hospitals.

A steam disinfecter.

#### TYNEMOUTH, No. 2.

Medical Officer of Health, J. R. BURN, M.B., B.S.

Area, 7,240 acres; estimated population, 15,096; birth rate, 33.91; general death rate, \*13.73; zymotic death rate, 2.11; infant mortality rate (per 1,000 births), 169.92; Phthisis death rate, 0.92; death rate from respiratory diseases, 2.84.

When compared with the corresponding rates for the preceding year an increase is shown in each case, as follows:—Birth rate, 1.55; general death rate, 0.35; zymotic death rate, 1.42; infant mortality rate, 64.77; Phthisis death rate, 0.02 and respiratory death rate, 1.03.

Five hundred and twelve births were registered during the year and two hundred and seven deaths; of the latter, eighty-seven were of children under one year and thirty-nine of persons sixty-five years and upwards.

Eighty-one cases of infectious disease were notified as follows:—Scarlet fever, 38; Diphtheria and Membranous croup, 28; Erysipelas, 14 and Enteric fever, 1.

Thirty-two deaths occurred from zymotic disease, viz.:—Diarrhœa, 20; Whooping cough, 8; Diphtheria and Membranous croup, 2; Measles, 2.

Phthisis caused 14 deaths; respiratory diseases, 43; heart diseases, 10; accidents 2 and premature birth, 12.

The following tables show the sub-districts in which cases of notifiable infectious disease occurred and give statistical information of considerable interest relating to the district as a whole, and also to each sub-division:—

| Sub-districts.                 | Popu-<br>lation. | Births. |                          | Deaths. |                          | Infant<br>deaths. |                             | Zymotic<br>deaths |                          | Infectious<br>diseases. |                                 |
|--------------------------------|------------------|---------|--------------------------|---------|--------------------------|-------------------|-----------------------------|-------------------|--------------------------|-------------------------|---------------------------------|
|                                |                  | No.     | Rate<br>per 1000<br>pop. | No.     | Rate<br>per 1000<br>pop. | No.               | Rate<br>per 1000<br>births. | No.               | Rate<br>per 1000<br>pop. | No.<br>notified.        | Attack<br>rate per<br>1000 pop. |
| Longbenton ..                  | 10,259           | 343     | 33·4                     | 143     | 13·9                     | 67                | 195·3                       | 22                | 2·10                     | 59                      | 5·7                             |
| Burradon and<br>Camperdown...  | 2,455            | 85      | 34·6                     | 32      | 13·0                     | 11                | 129·4                       | 5                 | 2·00                     | 6                       | 2·4                             |
| Willington and<br>Rosehill ... | 2,382            | 84      | 35·2                     | 32      | 13·4                     | 9                 | 107·1                       | 5                 | 2·09                     | 16                      | 6·7                             |
| Whole district...              | 15,096           | 512     | 33·91                    | 207     | 13·73                    | 87                | 169·92                      | 32                | 2·11                     | 81                      | 5·36                            |

| Sub-districts.              | Scarlet<br>fever. | Diphtheria. | Enteric<br>fever. | Erysipelas. | Totals. |
|-----------------------------|-------------------|-------------|-------------------|-------------|---------|
| Longbenton ... ..           | 24                | 23          | 1                 | 11          | 59      |
| Burradon and Camperdown ... | 2                 | 3           | —                 | 1           | 6       |
| Willington and Rosehill ... | 12                | 2           | —                 | 2           | 16      |
| Whole district ... ..       | 38                | 28          | 1                 | 14          | 81      |

It will be seen that the birth rate, the general death rate and the zymotic death rate were remarkably uniform in the three sub-divisions of this rural district, also that nearly 63 per cent. of the Scarlet fever cases and 81 per cent. of the Diphtheria cases occurred in the Longbenton district. It is remarkable that only one case of Enteric fever was notified during the year.

Of the non-notifiable diseases, Whooping cough was prevalent during the last four months of the year, Measles during the first half of the year and Influenza was epidemic during October, November and December.

*Factories and Workshops.*—Twenty-six workshops were on the register and the factories numbered eight. Thirty-four visits of inspection were made, and in only one case was a contravention of the Act met with; this was being dealt with at the close of the year, the owner having promised to carry out the remedial measures required.

*Dairies and Cowsheds.*—The number of these premises on the register was not stated, though two additional cowkeepers were added to the list during the year. In some cases limewashing of the cowsheds was needed, and instructions were given accordingly. One complaint was received of an excessive quantity of dirty deposit found in the milk. The premises from which it was supplied were visited and found to be kept in a cleanly condition and instructions were given with a view to preventing the contamination of the milk in transit.



*Slaughter Houses.*—These are not alluded to in the report

*Improvements.*—Building operations were actively carried on during the year, and the housing accommodation in the district was increased as follows:—Sixty-five houses were built in the Longbenton parish, the greater number of these being at West Allotment; six houses were built at Burradon and five at Camperdown. Over eighty houses were also in course of erection at Forest Hall, and it is intended that, when these are completed, they shall be occupied by residents of the Gosforth and Benton Rows, the last-mentioned houses having been condemned as unfit for human habitation. Thirty-six houses were reported to the council as being unfit for human habitation, and various improvements were carried out by the owners, *e.g.*, at Wagonman's Row, Forest Hall, new floors were laid in cement concrete, new rain water gutters and down pipes fixed, roofs, windows and doors repaired, and a cement footpath laid next to the houses. Several new floors were laid in houses at Benton Square, new rain water gutters fixed and cement areas formed next to the buildings. At Wapping Square skylights were fixed in the roofs of nine colliery houses. At Pit Row, Burradon, four houses were re-roofed, new floors laid and new windows fixed, etc.; five others in the same Row were closed. At Camperdown eight single-room back-to-back tenements were converted into four two-room tenements with through ventilation. In Camperdown Square, eight wooden houses were closed. The cottages at Willington West Farm were put right, and closing order cancelled. Four cases of overcrowding were remedied. Considerable improvements in the spouting of houses were effected; in all, four hundred and forty-one yards of rain water gutters and fall pipes were provided and repaired.

New bye-laws relating to streets and buildings were issued during the year.

The following improvements to streets were carried out:—Two thousand yards of new streets were made up with tar macadam and whinstone chip paving, including Ivy Street, East Forest Hall Road, Leyburn Dene Road and Elm Grove, Forest Hall; Royal Albert Drive, Queen's Gardens and Grange Avenue, Benton; a brick-on-edge footpath was completed at Palmersville, and at West Moor the estate owners commenced to lay cement footpaths and to make up the streets. New street works were also being carried out at Lansdowne Road and Oswin's Road, Forest Hall, and at Rosehill, Willington.

With the exception that for one house a new water supply was provided, no improvements in the water supply of the district are mentioned.

*Sewerage and Drainage.*—Extensions of the sewerage system were carried out by laying five hundred yards of twelve inch, and four hundred yards of nine inch sewers in the Benton district. An additional Webb lamp extractor was fixed at Willow Bridge, Forest Hall, where the Killingworth and Palmersville sewers join each other. A scheme of sewerage and sewage disposal was devised by the District Council's Engineer, for treating and disposing of the sewage from Bigges Main, and the work was commenced before the end of the year. The Forest Hall Station estate sewer was commenced.

The table drawn up by the sanitary inspector indicates that a considerable amount of work was carried out in the drainage of houses; in sixty-four cases defective drains were repaired or relaid which necessitated more than seven hundred yards of drains being thus dealt with.

Eighty-nine gully, disconnecting and other traps were fixed, eight inspection chambers were built and two houses were provided with drains where none previously existed.

The policy of the council and its officials in securing the abolition of insanitary privy ashpits is worthy of the highest commendation, and a

pleasing feature of the report is the record of "sixty-nine combined privy ashpits abolished." The work just mentioned was steadily carried out in different parts of Longbenton, Camperdown, Burradon and Willington during the year. Repairs to ashpits were effected in ten cases; seventy-two new ashclosets and seven dust-bins were provided; the original privy accommodation at Benton Square schools was abolished and water closets were substituted. Twenty-one new water closets were also provided.

The scavenging of the district continued to be carried out in a very satisfactory way under the supervision of the sanitary inspector. A most interesting and valuable report is submitted by the last-named official in which the cost of scavenging in the sub-districts of Longbenton, Burradon and Camperdown is set out and comparisons made with the cost under the contract system which previously existed. The average cost per house for the year was 5s. 10.4d., varying from 8s. 6d. per house at Burradon to 5s. 5.1d. per house at Longbenton. The average cost per house was 2s. 1.4d. less than the cost under the contract system and, although a liberal amount has been allowed each year for depreciation, the total cost of scavenging the three districts mentioned is £85 12s. less than was the case under the previous system, although there were five hundred and thirty-one more houses

*Requirements.*—The medical officer draws attention to the desirability, in the interests of public health, of all new houses being dry before being occupied, and of this condition being certified under Bye-law 111 before the tenants are allowed to enter; to considerable improvement in the general sanitary condition of the houses in this district being still urgently needed, notably, at Benton Rows, Gosforth Rows and Chapel Row; to improved water supplies being still required for Coatham House and for Swiss Villa, Benton, for Haslam's Cottage and many other cottages in their vicinity; to street improvements being needed at West Allotment, and Park View, West Moor, Killingworth Road and Gallalaw Terrace, East Gosforth, Tynedale Terrace, Benton, and at Forest Hall where the new colliery houses are being built; and to the desirability of increasing the equipment at the disposal of the council's officials for effectually dealing with infectious diseases by the provision of

(1) A steam disinfecter.

(2) Observation wards at the Earsdon Grange and Scaffold Hill Hospitals.

\* 13·97 if the deaths of two non-residents occurring within the district are deducted, and the deaths of six residents occurring outside the district are added.







TABLE OF VITAL STATISTICS, &amp;c., 1908.

- d 1654 if the deaths of 8 non-residents occurring in the district be deducted, and if the deaths of 4 residents occurring without the district be added.
- e 2156 if 15 deaths of non-residents occurring in the district be deducted, and if 1 death of a resident which took place outside the district be added.
- f 1217 if the deaths of 21 residents which took place without the district be added.
- g 1823 if 10 deaths of non-residents occurring within the district be deducted.
- h 1590 if the deaths of 9 residents which took place beyond the district be included, and if 2 deaths of non-residents which took place within the district be deducted.

15-29 if the deaths of 4 residents occurring without the district be added.  
 15-19 if the deaths of 2 strangers occurring in the district be deducted, and if the  
 death of a resident which occurred outside the district be added.  
 15-86 if the deaths of 131 non-residents occurring in the district be deducted.  
 15-17 if the deaths of 6 non-residents which took place within the district be deducted.  
 15-15 if the death of a stranger in the district be deducted.  
 15-20 if the deaths of 3 non-residents occurring in the district be deducted.  
 15-31 if 2 deaths of residents which took place without the district be added.

n 16-16 if 2 deaths of strangers in the district be deducted and 9 deaths of residents which occurred without the district be added.

A 1373 if 5 deaths of residents occurring without the district be added.  
B 1391 if the death of 1 resident occurring without the district be added.

C 1351 if the death of 1 non-resident occurring in the district be deducted, and if 6 deaths of residents which took place outside the district be added.

D 1355 if 87 deaths occurring in the district of persons belonging to other districts be deducted, and if 5 deaths of residents which took place without the district be added.

E 12 62 if the deaths of 3 strangers occurring within the district be deducted.

F 1397 if 2 deaths of strangers occurring in the district be deducted, and if 6 deaths of residents which took place without the district be added.



